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THE OPHTHALMOSCOPE.

A MONTHLY REVIEW OF CURRENT OPHTHALMOLOGY.

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ORIGINAL COMMUNICATIONS.

A NOTE UPON SOME NEW DENTAL SIGNS OF HEREDITARY SYPHILIS.*

By A. DARIER, M.D.,
OF PARIS.

Upwards of twenty-four years have elapsed since I had the privilege of following for several months the clinical work of Mr. Jonathan Hutchinson at the London Hospital. From the teachings of that eminent authority I learned to recognise those curious and characteristic dental alterations which constitute, as it were, the indelible signs of a specific taint.

Since that time I have never failed to examine the teeth of any suspicious cases that have fallen under my notice, and I have reached the firm conviction that the Hutchinsonian teeth are the most striking stigmata of hereditary syphilis, accompanied sooner or later by interstitial keratitis, choroiditis, and osseous lesions. Indeed, with regard to this point, a general agreement has been reached, and nowadays it is rare to come across anybody who disputes the value of the dental signs of hereditary syphilis. I have, therefore, no desire to dwell upon this aspect of the question.

---

*Read at the Annual Meeting of the British Medical Association, July, 1903 (Section of Diseases of Children).

Hutchinson's teeth, we must recognise, are not an inevitable consequence of the syphilitic taint of the parents, inasmuch as they are frequently wanting. Nevertheless, in many instances where the incisors and the canines show no alterations, or when the changes are poorly marked, I have often found analogous alterations as regards the first permanent molar teeth.

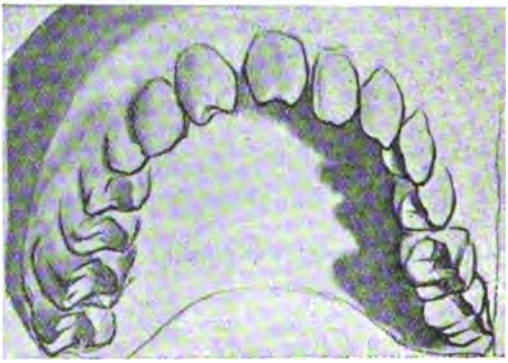


FIG. 1.

This observation I at first merely noted, without assigning the same cause to it as to the Hutchinson's changes. But, in face of frequent repetition, I finally came to the conclusion that I had to deal with a lesion of similar origin.

Some months ago I had occasion to make an interesting study of three girls belonging to the same family. The facts are as follows :—

The eldest, aged 28 years, had suffered from bilateral interstitial keratitis some sixteen years before she came under my notice, and traces of that disease could still be seen in the cornea. She was also affected with deafness, and her teeth (*Fig.* 1) were tolerably typical. In short, the patient presented Hutchinson's classical triad.

The second girl, aged 22 years, consulted me on account of interstitial keratitis, at first limited to one eye, but speedily becoming bilateral. Her denture was good in front, but, as you may see from *Fig.* 2, her first permanent molars presented the stigmata just described.

In face of these facts, I made a point of examining the third sister, who was big for her age, namely, 15 years. Her eyes were healthy. Her teeth (good at first sight) presented the above alterations on the first big molars that to my mind were as convincing as Hutchinson's stigmata, and led me to believe that sooner or later this girl would develop interstitial keratitis, choroiditis, etc.

The parents of these young women were in good health. Syphilis was denied by the father. The mother declined to accept my investigations—but to my thinking, the cause was clear.

Hutchinson's teeth (permanent incisors and canines) are characterised by a kind of arrest of development, which bears especially upon the summit of the tooth.

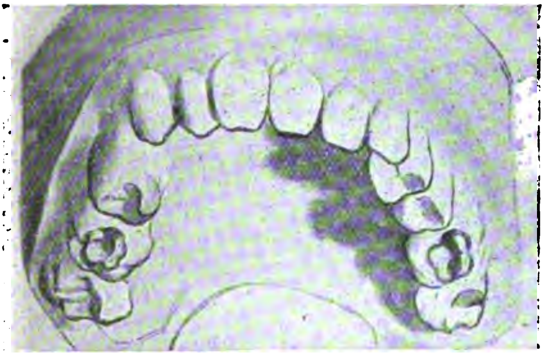


FIG. 2.

The incisors, especially the two upper central incisors, instead of having the normal rectangular form, are larger at their base, while their cutting-edge is narrower, and presents a characteristic notch. This notch is often due to the wearing away of the summit of the tooth, which was not originally covered with enamel, as may be seen in young subjects when the teeth first come through the gum.

Normally the canines terminate in a single point instead of in three tubercles as we see in the healthy incisors, showing at the moment of their eruption a small and often very sharp point above which closes the neck of enamel. This point of dentine quickly becomes broken or worn away, leaving behind it a characteristic notch, although one that is considerably smaller than that observed in the incisor teeth.

It is especially the incisors and canines of the upper jaw that manifest the foregoing stigmata. The latter occur less frequently in the teeth of the lower jaw.

How can we explain these dental alterations? They are assuredly due to a profound disorder of dentition affecting the organism at the time when the enamel-sac is forming. But the summit of an incisor tooth becomes covered with enamel after birth—that is to say, just at the time (second month) when the first signs of hereditary syphilis show themselves in the shape of "snuffles," skin eruptions, and mucous patches. A pathological process of this severity changes the general nutrition profoundly and modifies the evolution of each particular organ of the body, and that the more seriously the more intense the syphilitic manifestations are. In the latter event the dental alterations involve not only the upper and the lower incisors, but the canines also. The jaws themselves develop badly, becoming small and asymmetrical. The teeth are wanting, the palate is highly arched, and the jaws meet imperfectly. The head may be asymmetrical, the frontal bone "bossy," and so forth.

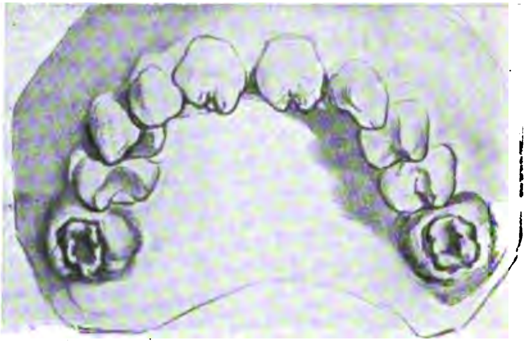


FIG. 3.

On the other hand, if the specific symptoms have been slightly developed, the dental changes are less marked, and may affect a single tooth only, *viz.*, that of which the evolution has coincided with the pathological acme. Under such circumstances, all the classical teeth may be spared, or at most one may observe a little dental dwarfing, associated with a slight asymmetry of the jaws.

Now, if in such cases you look at the first permanent molars, you will often find an alteration of the same kind as that described by Hutchinson in the canines and incisors.

The first permanent molars (four in number) terminate in four tubercles. As in the Hutchinsonian teeth, an arrest of development coming into play at the moment when the summit of the tooth covers itself with its cap of protective enamel, the four tubercles, insufficiently covered with enamel, exposes the yellowish dentine, which may proliferate into several more or less sharp points. The enamel forms below, thus enclosing, as with a collar, the four tubercles formed in this way. These osseous points, poorly protected by enamel, are of great fragility, and disappear rapidly, destroyed by caries or ground down by the process of mastication. The molars, in fact, are subjected to great pressure, and their jagged tubercles lodge particles of food, the chemical decompositions of which are capable of corroding the enamel quickly. Soon there remains nothing more than the crown of the tooth, with a carious centre.

In order to study these alterations, it is necessary to examine many children of different ages, so as to seize the moment

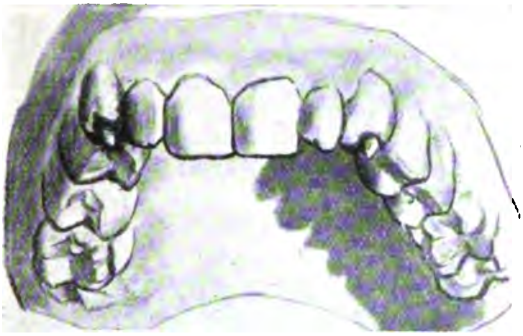


FIG. 4.

when the tooth is erupted. In fact, at the end of several months, one may see nothing beyond four carious teeth presenting nothing characteristic.

At the same time this dental feature may be present even in adults of a certain age.

I now show you a series of models, which will illustrate better than any words of mine the dental changes I have just described.

Here is a beautiful model (*Fig.* 3) of the teeth of hereditary syphilis, but unfortunately the notes of the case have been mislaid. The upper two central incisors are almost perfect types of the Hutchinsonian teeth : the other two incisors show nothing very characteristic. The canines do not exist, or are as yet undeveloped—in itself a sign of hereditary syphilis. The first permanent molars show precisely the features I have described, and these may perhaps be regarded as much a sign of inherited taint as the similar arrest of development marking Hutchinson's teeth.

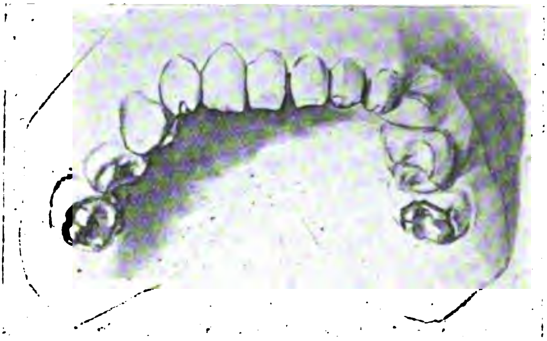


FIG. 5.

Here is another case (*Fig.* 4), where you can see the dental blemish bearing exclusively upon the two upper canines, while the incisors and the molars are perfectly normal.

In the next figure (*Fig.* 5) you see that two of the incisors show an attenuated Hutchinsonian type, while the canines are altogether typical. The first permanent molars present the typical arrest of development.

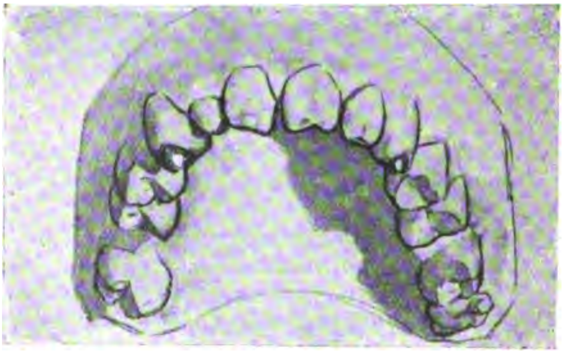


FIG. 6.

Lastly, here is a case (*Fig.* 6) where a single incisor only and the two canines can be considered as characteristic; the first permanent molars are carious, a fact that I consider as in favour of a diagnosis of hereditary syphilis.

CLINICAL, PATHOLOGICAL, AND THERAPEUTICAL MEMORANDA.

AN OPHTHALMOSCOPE FOR DEMONSTRATING THE FUNDUS.

By W. ADAMS FROST, F.R.C.S.,

OPHTHALMIC SURGEON TO ST. GEORGE'S HOSPITAL, LONDON.

The so-called demonstrating ophthalmoscopes—of which the best known are Brudenell Carter's and Priestley Smith's—enable the student to see the fundus immediately after the surgeon, almost with certainty, provided the patient's eye has not moved, but they are not "demonstrating" ophthalmoscopes in the sense of enabling the surgeon to point out different parts of the fundus. The perfect demonstrating ophthalmoscope would be one in which the image of the fundus could be projected on to a screen, so that it could be shown to an unlimited number of students. This has not yet been accomplished, but the instrument now to be described enables two observers to see the same image of the fundus simultaneously, and permits either of them with a pointer to indicate to the other any part of the image.

In the construction of the instrument I have utilized the excellent demonstrating ophthalmoscope of Priestley Smith; this gives an excellent inverted image of the fundus, requires little adjustment, and is fairly portable, I have however considerably increased the size of the mirror-aperture.

The modifications that I have made are entirely behind the mirror, and in no way interfere with the use of the instrument as originally intended.

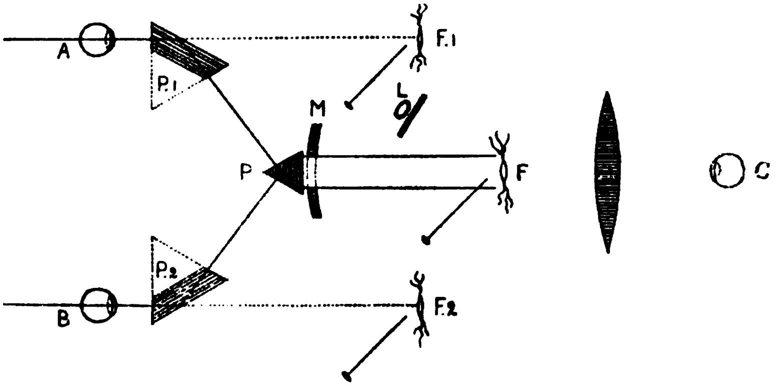
The essential modification is the addition of an equilateral prism P, which is a little wider than the mirror-aperture. This is placed with one face immediately behind the mirror, and at right angles to the line of vision.

A real inverted image of the fundus of the patient's eye, C, is formed at F. The rays from this, after passing through the mirror-aperture are reflected in opposite directions by the sides of the prism. An observer's eye, placed in the line of either of these pencils, sees an image of F, but, as this is formed by reflection, it is reversed as regards its right and left sides, To obviate this, each pencil is made to pass through a second prism, P1, and P 2. It is thus again reflected, the result being that an observer at A sees a virtual erect image of F at F 1, and an observer at B sees an identical image at F 2.

If now either A or B takes a pointer and directs it to any part of the real image F, both he and the other observer will see the pointer in the same situation on the virtual image.

Even at a first attempt it will be found quite easy to point to any part of the image, even to follow the course of a vessel.

In using the instrument the best plan is first to remove the prism behind the mirror, and to obtain a good view through the mirror aperture in the ordinary way, then to replace the prism and to look through prism P 1 and P 2 alternately, in the direction indicated in the figure. If a good view is not obtained through both prisms a slight lateral adjustment of the lens is required.



If trouble is experienced from corneal reflex, a movement of the lens backwards or forwards is required.

If bright vertical lines are seen they are due to multiple reflection of the edge of P farthest from the mirror, a line of indian ink or similar opaque substance laid on the prism edge will remove the trouble.

The demonstrating ophthalmoscope is manufactured by Messrs. Curry and Paxton.

FURTHER NOTE ON THE SUPERFICIAL PUNCTATE KERATITIS OF BOMBAY.*

BY MAJOR H. HERBERT, F.R.C.S.

I.M.S.

Two years ago a paper was read for me at a Meeting of the Association on this subject. I wish to add a few remarks.

The affection would appear to be of constant occurrence in Bombay. It was never entirely absent in any month of the 2½ years which I have spent in India, since first noticing the disease. It was most prevalent in the warm weather at the close of the rainy seasons. There was a widely spread epidemic in the autumn of 1901, in which year the rains ended unusually early. In October of that year the number of these cases formed a quarter of the total out-patient attendance at hospital.

---

*Paper read at the Annual Meeting of the British Medical Association, 1903.

The clinical appearances have been already sufficiently described. I only wish to add that the fluorescëin-stained dots on the cornea may not be found in the first two or three days of the affection. The conjunctival condition—palpebral injection, thickening, and slight roughness of recent origin—together with a mere trace of ciliary injection, suggests the nature of the infection if the disease be at the time prevalent.

I have not been able to learn much about the encapsuled bacillus that is found in the corneal epithelium in these cases. It stains so feebly that it is often missed in smear preparations, except when the epithelium has been taken from very well-marked cases; and failure to grow the organism on any of the ordinary media limits one's supply very much. Perhaps the most certain way of finding the organism is to stain by Gram's method, and to decolorize imperfectly. The capsules of the bacilli then retain the colour irregularly. After simple staining with watery solutions, the capsules remain uncoloured, or nearly so; and the coloured rod within is not always situated centrally. There may be a considerable unstained space at one end of the capsule, and this end of the capsule is then broader than the rest. A few apparently completely empty capsules may be found, rather larger than those which contain rods.

NOTE UPON A CASE WHERE PERMANENT PARALYSIS OF ACCOMMODATION FOLLOWED TYPHOID FEVER.

By SYDNEY STEPHENSON, M.B.

An intelligent medical man, aged 46 years, consulted me on February 21st, 1903, complaining that his function of accommodation had been lost many years previously. He stated that when about twelve years of age, print used to become blurred after reading for a while. As a young man he preferred books printed in bold type, but he is certain that when seventeen years of age, he could make out small print, although with a certain amount of difficulty. When he was twenty years of age, he suffered from a severe attack of typhoid fever, during the course of which his temperature reached 107° F. on at least one occasion. He was confined to his bed for about three weeks. During convalescence (which was extremely slow) he discovered that he was altogether unable to read small print, a thing that he has never succeeded in doing since that time, now twenty-six years ago. There were no other nervous symptoms during recovery from the fever. Dr. S——— has not suffered from diphtheria, and he denies syphilis. His general health and his habits are good. Judging from the fact that foreign moneys look too small to him, the patient is affected with some degree of micropsia. He wears "folders" (+ 4.0 D. spherical), and is unable to read without them.

The only family history of consequence was that a brother, at the age of nineteen years, contracted syphilis, a disorder followed by paraplegia within a year of the primary infection.

Dr. S——— appeared to enjoy excellent general health, although perhaps somewhat inclined to be mentally introspective. No evidence was obtained of any affection of the nervous system. The knee-jerks were brisk. In ordinary daylight, the pupils measured 3.5mm. transversely, and reacted normally to light and to convergence. External ocula movements good. The fundi showed no change. R.V. = $\frac{6}{18}$ + 1.0 = $\frac{6}{6}$ ptly. L.V. = $\frac{6}{18}$ + 1.0 = $\frac{6}{6}$ ptly. With the aid of a + 5 D. spherical lens No. 1 Jaeger was read 20 cm. to 25 cm. from the eyes, but no closer. With a + 4.0 D. spherical the same type could not be deciphered nearer than 30 cm. from the eyes, and so forth. In other words, there existed complete bilateral paralysis of the ciliary muscles.

Remarks.—Typhoid fever is a recognised though rare cause of cycloplegia, the symptoms of which usually come on during convalescence, and, after persisting for several weeks or months, slowly pass away. It appears that they are generally due not to an actual paralysis but to participation of the ciliary muscle in the general muscular weakness entailed by the zymotic ailment. They thus furnish an instructive contrast with the far more common cases of post-diphtheritic cycloplegia, which are almost certainly due to a peripheral neuritis induced by toxic poisoning. It is, however, plain that the above case cannot be explained on what we may call the "fatigue" theory. The peculiarity of my case lies in the facts that the paralysis was total and permanent—at all events, since it has persisted unchanged for twenty-six years, it is fairly entitled to the latter denomination. I have been unable to hear of a similar case; neither have I succeeded in finding anything of the kind in the literature which I have been able to consult. It would be interesting to learn whether readers of the OPHTHALMOSCOPE have come across parallel cases after typhoid or other zymotic fevers. Such may in reality be commoner than I imagine.

DOUBLE INTERSTITIAL KERATITIS IN ACQUIRED SYPHILIS.

By THOMAS CARWARDINE, M.S., F.R.C.S.
ASSISTANT SURGEON TO THE BRISTOL ROYAL INFIRMARY.

A married woman, aged 39 years, recently came under my care for two tumours of the tongue diagnosed as gummata. One was near the tip of the tongue, about the size of a small almond, and of solid consistence: the other was near the *raphé* on the dorsum, elongated, and so fluid that it resembled a cyst. The patient was observed to have interstitial keratitis, both eyes being affected. The teeth were normal, except that one upper lateral incisor was slightly narrower at the edge than at the base: but this dental indication was too slight to form any definite opinion upon with regard to the possibility of congenital syphilis.

The patient was treated by mercurials combined with iodides; the gummata of the tongue soon became absorbed, and it was noticed that the keratitis almost disappeared at the same time. When she returned to her doctor he noticed that her eyes were very much clearer, and the patient said that she also noticed the difference in her vision. But she soon neglected treatment, and when next seen by her doctor, he found that her eyes were quite as bad as if not worse than they were when he first sent her to me, and advised her again to resume the treatment. It appears that she had been drinking rather heavily at the time she gave up taking the medicine when the keratitis relapsed.

CURRENT LITERATURE.

NOTE.—Communications of which the titles only are given either contain nothing new or else do not lend themselves to abstract.

I.—ANATOMY, PHYSIOLOGY, PATHOLOGY, AND BACTERIOLOGY.

Key, Eincer.—A case of Sarcoma of the Choroid with a necrotic focus in the tumour. *Swedish Medical Society,* November 3, 1903.

As well-known, it sometimes happens that a sarcoma of the choroid is complicated with irido-cyclitis, which leads to phthisis bulbi. Leber and Kranströmer have suggested that the cause of this complication lies in an endogenous infection.

In other words, that micro-organisms enter the tumour, and that their toxins produce necrosis and irido-cyclitis. Ewetsky and some other authors believe that the necrosis is the primary change. Key's patient, a woman aged 34 years, suddenly developed severe pain in her right eye, and at the same time found that her sight was very bad. When she was examined two days later, marked ciliary congestion was found on the outer side of the eyeball, and the retina was detached in a position corresponding to the external redness. Although the tension was not increased, yet the presence of a choroidal sarcoma was suspected, owing to the kind of detachment and the absence of etiological causes. The redness of the sclera was thought to be an accidental scleritis. It disappeared after some days' treatment with sodium salicylate, but re-appeared after two months' absence. The affected eyeball was eventually removed. A small sarcoma of the choroid, with a relatively large necrotic focus, was found to be present in the temporal half of the eyeball. The vessels contained by the tumour showed hyaline degeneration. The foregoing case cannot be explained on Leber and Kranströmer's theory of infection. On the contrary, the author thinks that the necrosis results from a disturbance of nutrition, caused by degeneration of the vessels in the tumour. He considers that the two attacks of scleritis were due to the irritation caused by products absorbed from the necrotic portion of the tumour. This may be regarded as the first symptom of the intense inflammation that eventually leads to shrinking of the eyeball.

J. WIDMARK.

Abelsdorff, G.—On the anatomy of the ganglion cells of the Retina. *Archives of Ophthalmology*, March, 1903.

Krüger, A.—Upon the bacteriology of Ulcus serpens Corneae. (Zur Bakteriologie des Ulcus Serpens Corneae,) *Zeitschr. f. Augenheilk.*, Band IX (1903), p. 192.

After enumerating the various micro-organisms, blastomycetes, and hypomycetes that have been found in ulcus serpens corneæ, Krüger points out that two cases only are on record—namely, those by Bach and Neumann and by Uhthoff and Axenfeld respectively—where the affection in question was found to be associated with virulent bacilli. He then describes in some detail the following additional observation. A butcher, aged 30 years, suffered from a violent cold in the head, a malady succeeded by inflammation of the right eye. That eye was markedly congested, and a 4 mm. ulcer, of typically serpiginous appearance, was present in the cornea, which was otherwise clouded and dull. The anterior chamber was half-filled with pus. V.=fingers at 2 metres. Old cicatricial trachoma was present; no tear-duct mischief; rhinitis atrophicum simplex. The other eye was seriously damaged by post-pannus opacities of the cornea. The case was at first treated with atropine and moist heat, and later by cauterisation of the ulcer, partial evacuation of the hypopyon, and local applications of sublimate.

Material taken from the undermined edge of the ulcer, previously cleansed with sterile gauze, was smeared upon cover-glasses, and stained with fuchsin. Plump, straight bacilli, with rounded ends, were numerous in the preparations. They measured 1·75μ to 4·5μ by 0·75μ to 1·3μ. They were nearly always arranged in pairs, and single rods were scarce. No capsule could be made out. Tubes of nutrient agar, with and without human blood, were inoculated with the diseased material. Nothing whatever grew in the latter. But, after eighteen hours' incubation, numerous, raised, dull colonies were present in the former. They all consisted of similar bacteria, which were nearly invariably arranged in pairs and associated with thread forms. The water of condensation was clouded by great numbers of these micro-organisms. In gelatine stab cultures the microbes produced lateral, feathery outgrowths; they developed on grape-sugar agar, without the formation of gas; they did not coagulate milk; upon potato they grew very sparingly. These and other elaborate investigations led Krüger to suppose that they belonged to the group represented by Friedländer's pneumobacillus, supposedly Sputigenus crassus. Subcutaneous, intraperitoneal, and intravenous injections in mice, guinea-pigs, and rabbits of an emulsion of the organism gave negative results. But when injected into the anterior chamber of the rabbit, it gave rise to a definite local reaction, as shown by the appearance, within twenty-four hours, of conjunctival and ciliary redness, hyperæmia of the iris, infiltration around the site of the injection, and a greyish exudation which filled the contracted pupil. Injected into the corneal lamellæ the organisms gave rise to a more or less marked infiltration of that tissue. Injections into the vitreous produced pus, and a pure culture of the microbe was obtained from that source.

Anderson, H. K..—Reflex Pupil Dilatation by way of the Cervical Sympathetic. *Journal of Physiology*, Vol. 30, No. 1.

The author first goes into the results obtained by previous observers and throws considerable doubt on the occurrence of contraction of the pupil after division of the third nerve. To settle this he made five experiments on anæsthetised cats. He first of all divided the third nerve or else excised the ciliary ganglion. In each, after section, marked dilatation was obtained by the stimulation of various nerves such as the sciatic. There was also movement of the nictatating membrane, the lids were separated, and the eyeball was more or less protruded. None of these results occurred after section of the cervical sympathetic. He found that after section of the sympathetic, light had no effect on the pupil.

After section of the third nerve, hippus may occur, and this rhythm at once ceases on section of the cervical sympathetic.

After section of the spinal cord below the bulb, stimulation of the central end of the sympathetic still causes slight pupil dilatation, reaction of the nictatating membrane, and separation of the eyelids.

Pollack, Bernhard.—Upon the condition of the sclera in panophthalmitis. (Ueber das Verhalten der Sclera bei Panophthalmie.) *Zeitschrift für Augenheilkunde*, Band IX, p. 218.

In a phthisical eyeball, enucleated on account of a commencing panophthalmitis, Pollack found that the sclera did not stain of a uniform red colour when treated with eosine. On the contrary, while its outer layers stained red, its inner layers showed a distinct blue colour. Similar appearances were found in fifteen eyeballs removed for panophthalmitis. Neither the fixing nor the hardening of the specimen had anything to do with the peculiar staining, which Pollack believes to be typical of panophthalmitis. The author has not observed any similar re-action in other affections of the eye.

(1) **Blascheck, Albert.—Four cases of a noteworthy arrangement of medullated nerve-fibres. (Vier Fälle bermerkenswerter Anordnung von markhaltigen Nervenfasern.)** *Zeitschrift für Augenheilkunde*, Band IX (1903), p. 428.

(2) **Ulbrich, Hermann.—A rare observation upon medullated nerve-fibres in the Retina. (Eine seltene Beobachtung bei markhaltigen Nervenfasern der Netzhaut.)** *Zeitschrift für Augenheilkunde*, Band IX (1903), p. 599.

(1) Blascheck describes four instances of opaque nerve-fibres offering some exception to the general rule regarding position. Of the patients in whom the anomaly was observed, two were females and one was a male. Two of the eyes showed an isolated patch of medullated fibres situated at some distance from the optic disc, and having no connection with the latter.

One eye showed a patch of opaque nerve-fibres partially covering the disc, and concealing the connective tissue ring. The last case had a sheaf-like mass practically hiding the disc and extending into the neighbouring retina for some considerable distance above and below the papilla.

(2) Ulbrich points out that opaque nerve-fibres separated from the optic disc by a tract of healthy fundus are very rare. Casper, quoted by Mayerweg (*Archiv f. Augenheilk.*, XLVI) found the anomaly four times amongst 14,000 patients. Ulbrich quotes two cases from literature, namely, those recorded by v. Recklinghausen (*Virchow's Archiv.*, 1864, Bd. 30, S. 376), and by Stephenson (*Archiv. f. Augenheilk.*, XXXIII., S. 100). He then describes a case of his own, met with in a woman aged 52 years. The corrected vision was normal. The opaque nerve-fibres were present in both eyes. In the right eye, one patch lay about 2 papilla-diameters up and in from the optic disc, and in the left eye a much larger, comet-like process was situated down and in not far from the disc, while a tiny patch was present in the upper-outer part of the fundus.

Zia, Hassan.—Retraction movements of the Eye in irritation of the Medulla oblongata. (Retractions Bewegungen des Auges bei Reizung der Medulla oblongata.) *Zeitschrift für Augenheilkunde,* Band IX (1903), p. 223.

Zia describes experiments upon cats where retraction of the eyes followed mechanical stimulation of certain parts of the medulla exposed by trephining and dissection. The sensitive area appeared to be bilateral.

Hanke, Victor.—An undescribed bacillus as a cause of typical ring-abscess of the cornea. (Ein bisher unbekannter Bacillus, der Erreger des typischen Ring-abscess der Cornea.) *Zeitschr. f. Augenheilkunde,* November, 1903.

Hanke has found in the ring-abscess originally described by Fuchs a bacillus which has pathogenic powers as regards animals. His patient was a man, aged 44 years, whose eye was injured by a splash of hot machine oil. When seen a fortnight after the accident, the lids were somewhat swollen and reddened, the eye was markedly congested, the cornea was dull, cloudy, and showed a yellowish-grey ring (2 mm. to 3 mm. wide) lying 3 mm. from the limbus. A line of pus, 3 mm. to 4 mm. in height, lay in the anterior chamber. Hanke undertook a bacteriological investigation of the pus from the anterior chamber and of scrapings from the ulcerated cornea, and in material from these two sources found a bacillus, the chief characters of which may be briefly described as follows :

numerous long thinnish rods with rounded ends (0.8μ.=to 1.6μ. in length and 0.3μ. in width), mostly of extracellular distribution. It stained with the ordinary aniline dyes but not by Gram's method. In pure cultures it showed definite polymorphism. There was no spore formation, but in old cultures polar staining was observed. No flagella could be demonstrated in this facultative aërobe. Upon suitable media colonies began to be visible within six hours; the optimum temperature was 37°C. In boullion its growth first produced cloudiness, and then a deposit and pellicle upon the surface of the fluid, the reaction of which remained unaltered. Old cultures showed here and there a yellowish fluorescence. The organism grew luxuriantly upon agar, glycerine agar, serum agar, and maltose agar under the form of delicate, translucent, greyish colonies. A diffuse green fluorescence was noticed around the colonies, an appearance that soon spread over the medium, and was best marked on maltose agar. In stab cultures fluorescence and some development of gas were noticed. On gelatine, at room temperature, the growth was reminiscent of proteus. Stab cultures gave rise to rapid liquifaction of the gelatine. Fluorescence was scarcely to be seen except in old cultures. Blood-serum was rapidly liquified, with the production of a greyish-brown colour. On potato the organism formed a yellowish layer, which later became brown and eventually a leaden-grey colour. Intraperitoneal and subcutaneous injections of fresh cultures killed white mice in one to two days, the bacilli being found in great numbers in the blood and organs. Rabbits and guinea-pigs similarly treated did not succumb. Fresh cultures rubbed into the abraded cornea or placed in pockets in the cornea or introduced into the aqueous humour, resulted in identical lesions, namely, grey infiltration of the wound, a zone of grey infiltration lying in the parenchyma of the cornea about 1 mm. from the limbus, and hypopyon. Later, there was a rapid disintegration of the cornea, panophthalmitis, and phthisis bulbi. These processes occupied four to seven days according to the age of the culture. Histologically the bacilli could be found in the cornea and more sparingly in the hypopyon and vitreous body exudation of the inoculated eyes.

De Schweinitz, G. E.—Argyrosis of the conjunctiva and lacrymal sac, following the prolonged instillation of a five per cent. solution of protargol microscopic examination of the excised sac. *Trans. Amer. Ophthal. Society*, Vol. X, (1903), pt. 1 p. 161.

A woman, suffering from dacryocystitis, used a 5 % solution of protargol to the eye for eight consecutive months, with the very natural consequence that the conjunctiva became deeply stained with silver, which is, as everybody knows, the basis of protargol. De Schweinitz excised the diseased lacrymal sac, which was found to be almost bluish-black in colour. Upon microscopical examination, it was seen that the silver was mainly deposited along the elastic fibres which make up the meshes of the tissue, while some lay free in the tissue, and some outlined the inner wall of the capillaries. No silver deposits were found in the epithelium lining the sac. In conclusion, De Schweinitz confirms an opinion already expressed by several writers, namely, that protargol is more apt to stain the conjunctiva than silver nitrate.

Valenti, G.—Glyomyxosarcoma of the retina. (Gliomixosarcoma endofito della retina.) *Annali di Ottal.*, 1903, Vol. 32, Fas. 1, p. 32.

Valenti enucleated the left eye of a child, aged eleven months, whose sister had suffered from glioma of the retina in both eyes. The microscopic examination revealed the existence of a gliomyxosarcoma endophytum of the retina. Four months later the child succumbed to a cerebral tumour.

A. ANTONELLI.

Allport, Frank.—A case of ossification of the choroid and vitreous. *Ophthalmic Record*, October, 1903.

In an old blind stump Allport found bone, having about the size and shape of a molar tooth.

Snell, Simeon.—Plexiform Neuroma (Elephantiasis Neuromatosis) of temporal region, orbit, eyelid, and eyeball. Notes of three cases: with histological description by E. Treacher Collins. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

This important communication, as implied by the title, includes a clinical description of three cases of plexiform neuroma by Snell, and a pathological account of two of these cases by E. T. Collins. It is accompanied by several drawings.

Briefly, the cases are as under. 1. Ptosis and great hypertrophy of the upper eyelid, of congenital origin, in a female, aged 25 years. The mucous membrane was also thickened, there was some ectropion, and the lower eyelid was slightly affected. The tissues of the temporal region were involved. There was no history of any inflammatory attack. Some of the thickened tissues were removed on two separate occasions, with benefit to the patient's personal appearance. 2. A male, aged 19 years, suffered from a congenital deformity of the eyelids and face upon the left side, characterised by marked swelling and distortion of the parts. No history of inflammatory attacks. The condition was progressive. The shrunken eyeball occupied the inner portion of the orbit, while the outer part of that cavity was occupied by a nodular mass, apparently representing the lacrymal gland. There were several minor deformities of the nose, ear, and bones of the skull. Two operations, separated by an interval of about four months, were carried out with a view of removing the thickened tissues.

3. A lad, aged 7 years, was brought to Snell on account of congenital hypertrophy of the left eyelid, and adjoining parts of the face. The orbit was markedly enlarged. The eyeball was buphthalmic, with opaque crystalline lens. The condition was progressive; no history of inflammatory attacks. The eyeball and some of the thickened tissues were removed. It was noted at the operation that the tissues were dense but elastic, difficult to cut, and that they contained numerous coils of thick threads, which could be unravelled into long strings. These threads were as large as the thickest surgical silk, and presented nodosities at intervals.

Collins' pathological report upon case No. 2, was to the following effect. The lobulated mass, occupying the position of the lacrymal gland, was found to consist of thick, nodular, convoluted cords, held together by loose fibrous tissue. Similar cords were recognised in portions of the excised skin. The much hypertrophied subcutaneous tissue showed areas of various shapes, produced by thickenings of the fibrous tissue of the nerves, and in places surrounded by a sheath with endothelial cells. They presented an outer zone of dense fibrous tissue, and a more central zone, presenting here and there definite striation due to nerve-fibres. Sections of the cords from the lobulated mass mentioned above, treated with Weigert's stain, showed the medullary sheaths of the nerve-fibres. As regards case No. 3, Collins found that the skin was thickened, but without signs of inflammation, and that the subcutaneous tissue included areas due to sections of nerves, whose fibrous tissue elements had become much increased. External examination of the buphthalmic eyeball, removed from case No. 3, showed that the ciliary nerves surrounding the optic nerve were abnormally large and tortuous, that the cornea was enlarged and globular, that the disc was cupped, that the lens was deficient, that there was a partial absence of the suspensory ligament, and that there was an incomplete coloboma of the iris. Microscopically, the retina was found to be atrophied, and adherent to the choroid, and numerous thickened nerves could be seen in the anterior part of the sclera. The ligamentum pectinatum was undeveloped. The root of the iris, lastly, was adherent for some distance to the periphery of the cornea, thus accounting for the buphthalmic condition of the eyeball.

The communication thus briefly analysed concludes with some comments of a more or less general nature, upon the rare condition described. With regard to diagnosis, Snell makes the following practical statement: "There are certain characteristics, especially in appearance, which should make one immediately recognise the nature of any case at all similar, without a histological examination, however confirmatory that might be of the diagnosis. It appears that plexiform neuroma is congenital, or is usually observed at a very early age. It is certainly progressive, although usually slowly so."

A number of references are given to more or less similar cases.

Edridge-Green, F. W.—The tests for Colour-Blindness. *Trans. Ophthalmological Society.* Vol. XXIII, 1903.

Edridge-Green, F. W.—On the necessity for the use of colour names in a test for colour-blindness. *Trans. Ophthalmological Society,* Vol. XXIII, 1903.

Maggi, F.—A case of abnormal perception of colours in a young woman operated on for cataract. (Un caso di anormale percezione dei colori in una giovane operata di cataratta.) *Archivio di Ottalmologia,* 1903, V. 11, Fas. 3-4, p. 85.

The details of Maggi's case are interesting, since they show the surprising results that visual education may yield in subjects who are operated on at an advanced age for congenital cataract.

A. ANTONELLI.

II.—DISEASES AND INJURIES OF THE EYE AND ORBIT.

Zimmermann, C. and Pusey, Brown.—Clinical and pathological Report of a case of purulent metastatic Ophthalmia in Meningitis, giving rise to meningitic and sympathetic symptoms after thirteen years. Enucleation. Recovery. *Annals of Ophthalmology,* July, 1903.

Zimmermann and Pusey define purulent metastatic ophthalmia as "a secondary endogeneous purulent affection of the eye commencing in the retina or choroid, caused by conveyance of infectious matter (micro-organisms) from other primarily diseased parts of the body to the eye in pyæmic conditions." Such infections may be of surgical, traumatic, or puerperal origin, or due to some primary focus which cannot be discovered during life or perhaps even after death, when it is spoken of as kryptogenetic. The infection occurs through the circulation, either directly or indirectly, by causing endocarditis. Infectious material from the diseased valves reaches the eye either in the form of septic emboli or through hæmorrhages into the tissues. The nature and virulence of the infective agents vary according to the different primary diseases, although the morbid process is in each identical. In puerperal pyæmia the streptococcus and in surgical the staphylococcus, and in pneumonia and meningitis the pneumococcus predominate. The latter microbe produces the mildest form most frequently ending in phthisis of the eyeball with preservation of life, whilst the others mostly entail panophthalmitis, and generally terminate fatally. In meningitis there are two ways whereby infection of the eye may take place: (1) by infection of the blood, and (2) by direct propagation from the meninges to the eyeball. It must not be forgotten, too, that meningitis and ophthalmia may be co-ordinated but not synchronous symptoms of a kryptogenic pyæmia from other sources.

After the foregoing preliminary remarks, the authors relate the following case. A child, aged 14½ months, was seized with meningitic symptoms, during the course of which one eye became inflamed. The anterior chamber of the affected eye was filled with pus, and the iris was inflamed. The child recovered from the meningitis. When examined thirteen years later, the same eye was red, chemotic, and painful, with increased tension and total leucoma. The other eye showed signs of sympathetic irritation. The child, moreover, had a raised temperature, a slow pulse, and complained of pain in the abdomen, which was somewhat retracted. The blind and diseased eyeball was at once enucleated, and the patient made an uneventful recovery. Section of the excised globe revealed total detachment of the retina, and exudation behind the lens and ciliary body. The cornea was opaque and thickened, the anterior chamber obliterated, the capsule of the lens covered by a thick, white, adherent membrane, and the optic nerve atrophic. Brown Pusey's microscopical report upon the specimen was briefly as under: cornea staphylomatous, with calcareous deposits. Iris converted into a mass of cicatricial tissue, and universally adherent to the remains of the cornea. Posterior pigment layer mixed with a mass of connective tissue, binding the iris to the crystalline lens, of which little remained. Lying behind the lens were the degenerated remains of the retina, and a mass of cicatricial tissue, containing lamellæ of mature bone. Ciliary processes converted in numerous tubular, gland-like processes. Choroid (scarcely recognisable as such) contained amyloid bodies and bone. Retina converted into a mass of cicatricial tissue, more or less invaded by leucocytes. Optic nerve atrophic, with an apparently normal sheath. At the head of the nerve there was an increased number of cells, but no leucocytes could be recognised further back in the nerve. Infiltration of the cellular tissue surrounding the sclera, and a spot of cellulitis in the orbit.

The meningeal symptoms clinically suggested the possibility of an extension of the inflammatory process from the meninges to the globe, but the histological findings decidedly combat this view. The sheaths of the nerve showed no signs of a former inflammation, so that the authors exclude direct spread of the process from the meninges. The metastatic ophthalmia was apparently due to an embolic process by an infection of the blood from the meninges or of kryptogenetic origin. It should be added that micro-organisms were not found.

Zimmermann and Pusey conclude a suggestive article with these words: " Practically the case illustrates the danger dormant in an eye which has apparently become quiet after purulent metastatic ophthalmia, and teaches the lesson to remove it at once as soon as symptoms of renewed inflammation has set in, as they may produce sympathetic ophthalmia of the other eye or entail grave complications by travelling backward to the orbit and meninges."

Cruchaudeau, G. E.—Total ophthalmoplegia of peripheral origin in the course of Cancer of the Tongue. (Ophtalmoplégie totale périphérique au cours d'un cancer de la langue.) *La Clinique Ophtalmologique*, 25th February, 1903.

Cruchaudeau describes a case of cancer of the tongue, spreading in the left parotid region, in which eighteen months after the onset of the cancer there appeared incomplete paralysis of the third and paralysis of the sixth nerves. At the autopsy the disease was found to have extended to the dura mater at the cavernous sinus, and to have involved the ocular nerves.

W. ERNEST THOMSON.

Peters, A.—On Traumatic Affections of the Cornea (Erosions, Keratitis disciformis, and Ulcus serpens) and their relation to Herpes Corneæ. (Über traumatische Hornhanterkrankungen (Erosionen, Keratitis disciformis, und Ulcus serpens) und ihre Beziehungen zum Herpes Corneæ.) *Archiv. f. Ophthalmologie,* 57, Band, i Heft, October, 1903.

Although the general appearance of the cornea as well as the etiology and course of the disease seem to offer but little ground for analogy, there are certain well-known symptoms common to all these affections which point to a common pathology. These symptoms are, according to Peters, peculiar degeneration of the corneal epithelium, which comes off readily, longitudinal folding of the cornea, especially of the posterior layers, and degeneration of the endothelium, permitting the passage of aqueous humour into the corneal parenchyma. Peters follows Fuchs in ascribing these changes to œdema of the cornea, but he goes a step farther by pointing to minute nervous lesions as to the most likely cause of the œdema. Lesions and irritation of the peripheral nervous branches may certainly cause œdema, as well as formation of vesicles and even ulceration, though suppuration, as in case of septic ulcer, can only take place after secondary infection. Anæsthesia and sometimes hyperæsthesia of the cornea which are seen in herpes corneæ, as well as in other forms, seem to point to a nervous origin. Peters also mentions in this connection the relief which is often obtained by sulphate of quinine, which he gives in two daily doses of six grains each. In all cases loose epithelium should be removed by first tearing a shred off with the capsular forceps, and then scraping away the rest as far as possible.

R. GRUBER.

Alter, Francis W.—Pigmented sarcoma of the choroid, with return of growth in orbit four years after enucleation of the eye. *American Medicine,* November 14, 1903.

About four years after the removal of an eyeball containing a melanotic sarcoma, there was a recurrence in the orbital stump under the guise of a rapidly-growing blackish nodule. Complete excision of the orbital contents, including the periosteum, was accordingly carried out. Alter advocates exenteration of the orbit in all cases of sarcoma of the choroid, whether such appear to be intra-ocular or not.

Kipp, Charlès, J.—A case of unilateral Hemianopsia in which the Wernicke hemianopsia pupillary reaction was present, *Ophthalmic Record,* January, 1903.

Fridenberg, Percy.—Vicarious menstruation into the retina followed by detachment and retinitis striata. *Trans. American Ophthal. Society*, Vol. 10 (1903), p. 116.

A girl, aged 15 years, experienced a dimness in the sight of one eye coincidently with her first menstrual period. Fridenberg found several changes in the fundus of the affected eye—as, for example, blurring of the edge of the disc, white striæ along certain veins, a few glistening dots around the fovea, and hæmorrhages. Vision was seriously compromised (V.= 3/200). No systemic disease could be found to account for the retinal changes. Later in the course of the case, the retina became partially detached, and striæ made their appearance in the vitreous. Menstruation became established seven months after the case was first seen by the author, but the sight of the affected eye was then practically lost. The evidence upon which Fridenberg bases his diagnosis of vicarious menstruation seems to be twofold : (1) that the ocular attack happened to coincide in point of time with the first menstrual period, and (2) that it ceased to progress with the establishment of a normal monthly flow.

Evans, T. Horace.—Vicarious menstruation. *American Medicine*, November 14, 1903.

Evans reports an inconclusive case of vicarious menstruation beneath the conjunctiva in a woman aged about 42 years, in whom the function of menstruation had been irregular for some four years.

Zia.—Phlegmonous inflammation of the lids, with gangrenous destruction of the conjunctiva due to staphylococci. General sepsis. Death. (Phlegmonöse Entzündung der Lider mit gangränöser Abstossung der Konjunctiva durch Staphylokokken bedingt. Allgemeine Sepsis. Exitus letalis.) *Ophthalmolog. Klin.*, 20, 1903.

A child, five years of age, suddenly developed a swelling of the right upper eyelid, thought by the parents to be due to a sting by a fly. Rapid increase of the swelling—phlegmonous inflammation—gangrene. Treatment by warm, moist applications, extensive incisions, inunction with Credé's ointment, and baths. Death followed in two days from cardiac failure, and was preceded by decrease in the swelling and meningitic symptoms. The staphylococcus pyogenes aureus was the only micro-organism found.

Woch. f. Ther. u. Hygiene des Auges, 3 Dezember, 1903.

Levinsohn, Georg.—On Sclerosis of the Choroid with secondary degeneration of the Retina. *Archives of Ophthalmology*, January, 1903.

D'Oench, F. E.—Review of sixty-nine cases of Rupture of the Choroid, compiled from the records of the New York Ophthalmic and Aural Institute. *Archives of Ophthalmology*, January, 1903.

D'Oench's 69 cases of rupture of the choroid are taken from a total number of over 150,000 patients seen during 33 years at the New York Ophthalmic and Aural Institute. More than three males were affected to every female. The accident was most frequent between the ages of 10 and 40 years. In 40% of the cases where the point was noted, the rupture occurred between the optic disc and the macula. In four cases multiple ruptures were observed. The complications (named in the order of their frequency) included hæmorrhage, atrophy of the optic nerve, iridodialysis, detachment of the retina, formation of connective tissue in the retina, and traumatic cataract. The sight eventually regained by the injured eyes usually fell below 1/10.

Duane, Alexander.—Aplasia of the Papilla and retinal vessels with a peculiar anomaly at the macula in eyes otherwise normal. *Archives of Ophthalmology*, July, 1903.

A child, aged 2½ years, was brought to Duane with the history that sight had never developed. Upon examination, the physical development of the child was found to be good, although he had never learned to stand or to walk. Mental development, temper, and disposition normal. There was nystagmus, and perception of light seemed to be absent. Pupils inactive. Vitreous opacities in the left eye. No vessels could be seen in either fundus, except two very slender twigs running upwards and downwards from each optic disc. The latter structure looked flat and inconspicuous. It had a dirty-white colour and an irregularly oval shape, and was devoid of the usual markings. At each macula was a circular area, several disc-diameters wide, surrounded by a sharply-cut dark border. The area, which included a little scattered brownish pigment, did not appear to be depressed or raised relatively to the fundus generally. Duane likens it to a bubble as seen under the microscope. The author concludes that "the case seems to be almost unique in that both the peculiarities described were present in eyes otherwise well formed and in a child of fairly normal development."

Wilder, William H.—Ineffectual attempt to remove a piece of steel from the eye with the Haab magnet. *Ophthalmic Record*, June, 1903.

De Schweinitz, G. E.—Concerning the disappearance of the lesions in Circinate Retinitis. *Ophthalmic Record*, February, 1903.

De Schweinitz describes briefly three cases of Retinitis circinata, all in women, aged respectively 33, 35, and 77 years. He points out that several explanations have been offered to account for the characteristic lesions of the disease:—1. Fibrinous exudations in the deeper layers of the retina coagulate and thus form the *plaques* and masses; 2. The foci represent areas of fatty degeneration which have arisen from hæmorrhages; 3. The white spots consist of fat cells where hæmorrhages had formerly been present (Amman); 4. The lesions depend on a fibrinous exudation, in which fatty changes may take place in the later stages in the external retinal layers, their location being limited to the so-called layer of Henle (Nuel); 5. The yellowish-white areas are simply one of the manifestations of long-standing œdema, thus marking out the periphery of the affected region, the size of the circle varying according to the amount of the previous affection (Marcus Gunn); 6. The degeneration depends upon vascular changes, especially in changes in the group of vessels which supply the macular region; these vessels are obliterated and the parts supplied by them are destroyed (Goldzieher). It is possible that several of these explanations may be correct, although De Schweinitz thinks it is too much to assume that the white patches are always dependent on pre-existing hæmorrhages. Both typical and atypical forms of Retinitis circinata have been recorded, a fact that may explain the different views expressed with respect to the etiology of the affection. Three terminations are possible, as under: (1) the ophthalmoscopic appearances remain without change for years; (2) true white degeneration of the retina is slowly but surely progressive. Vitreous opacities, posterior synechiae, and retinal detachment may occur (Fuchs); (3) the white spots may disappear, (a) partly or (b) wholly, or both the spots and the macular exudation may be absorbed, as in a case recorded by Fuchs. In De Schweinitz's first case (a) happened, and in his second (b). "The evident conclusion of the matter is that given a case of so-called circinate retinitis, a fatal prognosis *quoad visum* should not immediately be given, and all reasonable therapeutic measures should have fair trial." With regard to treatment, De Schweinitz says: "I have some faith in the iodides, especially the iodide of sodium; mercuric bichloride seems useful. I would also try subconjunctival saline injections and perhaps pilocarpine diaphoresis." Finally, it may be noted that De Schweinitz has seen disintegration of the circinate lesions begin in five months in one case, and disappear in another case in about a year.

Purtscher.—A clinical contribution to traumatic enophthalmos. *Archives of Ophthalmology*, November, 1903.

Purtscher points out that there is still much diversity of opinion with regard to the nature of traumatic enophthalmos. This is doubtless due to the fact that the cases reported under that name are of different nature. He excludes from the present communication cases due to destruction of a portion of the skull about the orbit, and is inclined to exclude also those where the orbital tissues undergo cicatricial shrinking after injury in the region of the eye. The author next reports two instances of traumatic enophthalmos, one following an injury by a cow's horn, and the other a kick from a horse. He gives abstracts of the more recent cases published by Cohn, Schapringer, Schwarzchild, Fuchs, Oliver, Denig, Neulen, Maklakoff, Darier, and Roberts. All cases of traumatic enophthalmos, not due to gross fractures of the orbit, have three points in common, *viz.*: (1) traumatic origin; (2) enophthalmos; and (3) ptosis, more or less marked. The complications, as might be expected from the causation, are numerous. They include wounds in the vicinity of the orbit, paralysis of ocular muscles, anæsthesia of some branches of the fifth nerve, unilateral atrophy or sweating of the face, atrophy of the optic nerve, facial paralysis, hemiplegia, and changes in the pupils, choroid, vitreous, and crystalline lens. Purtscher thinks that the ptosis associated with the enophthalmos is mainly due to the sunken location of the eyeball. In pure cases the most probable explanation of the enophthalmos is that a lesion of the trophic peripheral nerves has led to absorption of the orbital cellular tissues and consequent sinking of the eyeball. In adopting this view, however, the writer admits that other probabilities cannot be altogether excluded.

Capauner.—Upon Rosea of the Cornea. (Ueber Rosacea corneae.) *Zeitschr. f. Augenheilkunde*, Band IX (1903), p. 126.

Capauner describes at some length five cases of rosea (*acne rosacea*) of the eye, all in women 43 years of age and upwards. The diagnosis of ocular rosea rests mainly upon three points: (1) that it affects adult females only and is often connected with the menopause; (2) that it is always associated with rosea of the skin; and (3) that the corneal and conjunctival lesions are to some extent characteristic of the malady. With regard to treatment, Capauner recommends the local use of calomel, and he finds the galvano-cautery to be the most certain means of destroying the conjunctival and corneal infiltrations.

Kurzezunge and Pollack.—A case of Primary Tumour in the Optic Papilla (Ein fall von primärer Neubildung auf der Papille des Optikus.) *Zeitschrift f. Augenheilkunde*, October, 1903.

The case described is that of a man 21 years of age who has been excused military service on account of defective vision of the right eye. The particulars were: vis. 5/50, field of vision reduced, central scotoma of 10°–20°. Of the papilla only a narrow, darkened, medial crescent was present, the remainder showed as a luminous light red object, somewhat of the shape of a cauliflower. In the macula were white spots upon a dark ground, between the macula and papilla a greyish white spot. The tumour, which showed 3 D of prominence, was surrounded by grey pigment.

The authors consider the tumour to have arisen from the head of the optic nerve, and to be a primary neurofibroma, or (from the abundance of vessels present), myxofibroma. Observations extending over six months showed no changes. The authors were unable to find any record of an exactly similar case. A. BIRCH-HIRSCHFELD.

Alleman, L. A. W.—An unusual case of Ptosis. *Ophthalmic Record*, October, 1903.

Immediately after sustaining a slight contusion over the outer angle of one eye, the skin over the upper lid became, as it were, loosened and fell below the free edge of the eyelid, thus presenting an appearance like that of ptosis. This condition of so-called "ptosis atonica" has, it appears, been described by Sichel and by Hotz. In Alleman's case it was remedied by operation.

Sweet, William H.—Optic atrophy following intestinal hæmorrhage. *Trans. Amer. Ophthal. Society*, Vol. X (1903), part 1, p. 183.

Sweet's patient, a man aged 55 years, with a family history of hæmophilia, was affected with vertigo, extreme muscular weakness, and bleeding from the bowel. Six days after the last attack of hæmorrhage, sight failed, and in the course of a few hours light could be recognised only in a small area towards the outer side of the field of vision. Three days later there was absolute blindness in the left eye and in the right eye loss of light perception in all parts of the field except as regards a small area to the temporal side. Pupils almost motionless to light, optic discs pale, and retinal arteries moderately contracted. Symptomatic treatment effected no good in the case of the left eye, but in the right eye it led in three months to recovery of normal vision, although the field remained almost in *statu quo*.

III.—THERAPEUTICS, OPERATIONS, INSTRUMENTS, AND APPLIANCES.

Wygodski.—The permanent success of iridectomy in Primary Glaucoma. *Klinische Monatsblatter f. Augenheilk*, September 25th, 1903.

In spite of the number of detailed communications on this subject by Reichardt, Friedrich, Ackermann, Gatzek, Hahnloser, Sieder, and others, additions to the already existing statistics as to the permanent success of iridectomy in primary glaucoma are of great importance, especially when, as in the work before us, they are drawn from a large number of cases.

In 37 cases of acute inflammatory glaucoma, Wygodski obtained in 81 % a favourable result (76 % improvement), and 5 % *status idem*, and in 19 % deterioration. In 147 cases of chronic inflammatory glaucoma, 50 % showed a good result (10 % improvement and 40 % *status idem*), while in 50 % the result was unfavourable (30 % deterioration and 20 % amaurosis). It is noteworthy that cases operated upon in the earliest stage gave 85 % of favourable results. In 104 cases of glaucoma simplex, 11.5 % resulted favourably (0.96 % improvement, 10.5 % *status idem*) ; 85 % unfavourably (52 % deterioration and 36.5 % amaurosis). In 25 cases of glaucoma simplex with intermittent inflammation, 34 % resulted favourably, and 68 % unfavourably.

In view of the foregoing figures Wygodski reaches the following important conclusions :—iridectomy is to be recommended in all stages of inflammatory glaucoma, since even in the later phases the possibility of a favourable issue is not excluded. The earlier the operation is performed, the more favourable is the prognosis. The latter is best of all in the initial stage. In typical glaucoma simplex the prognosis is far less hopeful. At most, one can only hope to arrest the progress of the disease—that is, to maintain the *status quo*. Wygodski recommends operation in glaucoma simplex only in cases where increased tension co-exists with good central visual definition, and where the field of vision is only slightly restricted. In the event of relapses after iridectomy, supposing that treatment with myotics is insufficient, the author thinks that sclerotomy or iridectomy must be resorted to. Myotics, as he points out, cannot replace iridectomy.

A. BIRCH-HIRSCHFELD.

Jordan, P. A.—A new chloroform inhaler. *Ophthalmic Record*, October, 1903.

Jordan's ingenious inhaler (made by V. Mueller and Co., of Chicago), is simply a small mask of wire gauze so constructed as to fit the contour of the nose closely and to be held by a handle extending downward over the chin. It does not get in the surgeon's way, and affords a better view of what is going on for bystanders. It may be used for giving ether.

(1) **Magnani, C.—A new anæsthetic. (Un nouvo anestetico).** *Annali di Ottalmologia*, XXII., Nos. 5 & 6, 1903.

(2) **Salomonsohn, H.**—*Wochenschr. f. Therapie u. Hygiene des Auges*,, Nr. 28, 1903.

Magnani and Salomonsohn have articles on Yohimbine, an alkaloid obtained from Yumbehoa bark, which has for some time enjoyed a reputation in medicine as an aphrodisiac. Magnani published, in the course of last year, an account of his experiences with a 1 % solution of yohimbine as a local anaesthetic. He found that, when dropped into the eye, it produced anaesthesia of the cornea and conjunctiva, some transient smarting, and a rather marked hyperaemia of the conjunctiva. The anaesthesia, which was complete in ten minutes, persisted for thirty minutes, and passed away at the end of an hour. The iris was slightly sluggish in its movements, probably because its vessels were gorged with blood. Accommodation was not influenced. Myosis or mydriasis may be observed—there is no rule in that respect. Finally, it may be noted that the fresher the solution employed, so much the redder did the conjunctiva become. Since these earlier researches, Magnani has used yohimbine by subcutaneous injection in operations upon the eyelids. When thus applied, the anaesthetic action persists for a long time. The new agent, which is expensive, is non-toxic. H. Salomonsohn states that yohimbine, when dropped into the conjunctival sac, gives rise at first to some smarting and circumcorneal injection. Anaesthesia follows one minute after the solution has been placed in the eye, and persists for at least thirty minutes. In some cases a slight dilatation of the pupil, lasting for several hours, was produced. Yohimbine affects accommodation little if at all.

Briefly, there appears to be no doubt that a 1 % solution of yohimbine is an efficient, non-toxic anaesthetic as regards the eye, and one whose action can be almost indefinitely prolonged. Its effect upon the pupil is still open to question, but it is proved that it exerts no action upon the function of accommodation. On the other hand, the conjunctival hyperaemia it causes and its high price militate against anything like its general adoption in place of cocaine or holocaine.

Hobbs, Arthur G.—The action on mucous membranes of silver salts, with special reference to some of their new organic forms. *Ophthalmic Record*, June, 1903.

After pointing out the deleterious effects of silver nitrate on mucous membranes provided with columnar and ciliated epithelium, Hobbs urges the claims of protargol, argyrol, and albargin to an extended recognition.

Marquez, Manuel.—The action of remedies upon the pupil, the accommodation, and the intra-ocular tension. *Congrès de Madrid*, 1903.

Marquez's observations, carried out upon 39 patients, refer to atropine, duboisine, scopolamine, homatropine, euphthalmine, and cocaine. With regard to atropine, Marquez found that after the application to the eye of a single drop of a 1 per cent. solution, the pupil began to dilate in 10 to 15 minutes. became fully dilated in 30 minutes, and the dilatation began to pass away in three days; the longest mydriasis observed was 17 days, in a case of detached retina. After the use of duboisine, the pupil began to dilate in 15 minutes, and reached its maximum dilatation in 20 to 40 minutes; dilatation, as a rule, began to pass off on the second day. In the two cases observed the total duration of the mydriasis was 11 to 13 days. As to scopolamine, dilatation of the pupil began in 10 to 15 minutes, and lasted 3 to 5 days. The mydriatic action of homatropine began to diminish on the same day as the drug was applied, while its total duration lasted from 1 to 3 days. In the case of euphthalmine, the pupil began to dilate in 10 to to 15 minutes, reached its maximum in 30 to 60 minutes, commenced to pass away the same day, and generally lasted a day, more or less, but never longer than two days. In Marquez's experiments, a 1 per cent. solution of the hydrochloride of euphthalmine was employed, but the author points out that even with stronger solutions the results are almost the same. With cocaine, the pupil began to dilate in 5 to 20 minutes, reached its maximum in 16 to 43 minutes, and the mydriasis never lasted longer than one day. Marquez concludes, in brief, that all mydriatics show evidence of their action in from 10 to 20 minutes, and that full dilatation of the pupil is attained in 30 to 60 minutes. The author, although he has undertaken no exact researches upon this point, believes that every mydriatic agent paralyses the accommodation to some extent. The same remark applies to the intra-ocular pressure: he has seen an attack of glaucoma after dilatation of the pupil by euphthalmine. Scopolamine appears to Marquez to be particularly toxic. A. DARIER.

Hotz, F. C.—Three essential points in the operation for cicatricial ectropium. *The American Journal of Ophthalmology*, June, 1903.

Hotz believes that good results may be obtained in operations for cicatricial ectropium if attention be only paid to the three following points:

1. The proper division and fixation of the skin flaps;
2. The selection of the most suitable material for covering the lids;
3. The shortening of the over-stretched lid border.

Hotz takes up the foregoing points one by one, and, in doing so, shows how they may be best attained. His communication will well repay careful study.

Bull, Charles Stedman.—The present status of subconjunctival injections in ophthalmic therapeutics. *Trans. Amer. Ophthal. Society*, 1903, p. 31.

Bull gives the literature appertaining to the sub-conjunctival injection of such various substances as sublimate, iodoform, sodium chloride, mercuric cyanide, phospholuteina, potassium iodide, sodium salicylate, anticeltina, Poehl's saline solution, hetol, and gelatine. The chief change produced by the injections seems to be in the composition of the aqueous humour, which becomes richer in albuminoids. This leads to the appearance of various protective substances in the aqueous, which becomes markedly hæmolytic. Bull summarises his three years' experience of the method in the following words: "A careful observation of my own cases, in which various solutions were employed, has not been able to convince me that sub-conjunctival injections bring about any more rapid or favourable results than other methods of treatment which we have hitherto employed for affections of the cornea, uveal tract, or retina. In several cases of orbital cellulitis of an infectious character, however, I found that sub-conjunctival injections of a sublimate solution (1 : 1,000) did exert a very favourable and unusually rapid effect in hastening the suppurative stage, in reducing the dense infiltration of the orbital cellular tissue, and thus aiding in restoring the circulation to the strangulated parts. My own conclusions, based on observation of my own cases and a careful study of the literature of the subject, are that all reports of the beneficial effects of sub-conjunctival injections should be carefully criticised and compared with the results obtained by other methods of treatment, before accepting them as of any real value."

Tornabene, C.—The influence of Iridectomy upon the intra-ocular tension and the phenomena of filtration. (Influenza della iridectomia sulla tensione oculaire e sui fenomeni di filtrazione.) *Archivio di Ottalmologia*, 1903, V. 10, Fas. 11 and 12. p. 422.

According to Tornabene's experiments upon the eye of a rabbit, two months after iridectomy by scleral section had been performed, the intra-ocular tension became lowered, and the filtration of fluid (as tested by Leber's manometer) was much more manifest than in the normal eye. Iridectomy by corneal section, on the contrary, determined insignificant changes in the tension and filtration of fluid. A. ANTONELLI.

Trosseau, A.—Collargol in ocular infections. (Le Collargol dans les infections oculaires.) *La Clinique Ophtalmologique*, 10th March, 1903.

Trosseau has had striking results from inunctions of collargol. Three grammes of 15 per cent. ointment are rubbed into the skin, which has been scrubbed to redness. The following cases were most markedly bettered by the treatment, *viz.*: irido-choroiditis following child-birth; blennorrhoea with hypopyon complicating pneumonia; iritis coming on fifteen days after cataract extraction. Although he has had some failures, Trousseau reports these few very successful cases in order to stimulate others to try collargol.

W. ERNEST THOMSON.

Hammond, Graeme M.—The treatment of Degenerative Diseases of the nervous system by massive doses of strychnia, with special reference to Tabes Dorsalis, Progressive Muscular Atrophy, Optic Nerve Atrophy, and Pseudo-Muscular Hypertrophy. *Boston Medical and Surgical Journal*, August 27, 1903.

Hammond reports several cases showing improvement or arrest of the degenerative process—a rare result. Certain cases of tabes have been benefited by other means, but he knows of no other cases of retinitis pigmentosa and pseudo-muscular hypertrophy which have been arrested by any means whatever. In progressive muscular atrophy the process has rarely stopped spontaneously, but the author's case even regained some muscular power. Of course, neurons cannot be recreated, but it seems that the cell can be restored if the degeneration is partial. He generally begins with $\frac{1}{40}$ gr. or $\frac{1}{30}$ gr. three times a day, increasing by $\frac{1}{500}$ daily until $\frac{2}{3}$ gr. or $\frac{1}{5}$ gr. three times daily is reached. The massive doses can be continued for months at a time without subjecting the patient to strychnine poisoning. All but two of the cases reported had been under observation a year.

American Medicine, September 5, 1903.

Wood, Casey —A note on the use of Jequiritol and Jequiritol serum (Merck). *Ophthalmic Record*, June, 1903.

Wood gives details respecting the preparation and employment of jequiritol in pannus and other conditions consecutive to trachoma.

Buller, F.—About skin grafting in ophthalmic surgery. *Trans. American Ophthal. Society*, Vol. X (1903), p. 134.

After pointing out the several difficulties attaching to skin-grafting in eye work, Buller describes a plan which he adopts to lessen some of the inconveniences of the proceeding, especially as regards imperfect coaptation of the flap. Ordinary silk isinglass plaster is cut into convenient strips and moistened. Then, the skin-graft, cut as nearly as may be to the size required, is transferred dry from the razor to the plaster, its epithelial surface being applied to the moistened side of the latter. With a silver curette the graft is stroked and spread out until it is completely adherent. After this, both skin and plaster are trimmed with scissors exactly to the desired shape and size. In conclusion, Buller insists upon certain other precautions that should be taken in skin-grafting, such as the necessity of staunching all blood before grafts are applied, strict asepsis, the need of keeping the parts on the stretch by temporary sutures, and the care called for in applying dressings and bandages.

IV.—MISCELLANEOUS.

Barrett, James W. and Orr, W. F.—An attempt to estimate the causes of blindness of the inmates of the Victorian Blind Asylum. *Intercolonial Medical Journal of Australasia*, May 20, 1903.

Barrett and Orr, with a view of ascertaining, as far as might be, the causes of the blindness, examined the eyes of sixty inmates of the Victorian Blind Asylum. As the figures given refer to young people, they do not, of course, profess to give an estimate of the causes of blindness at all ages. The results of the investigation came out as follows: ophthalmia neonatorum accounted for 14 of the cases, or nearly one-quarter of the entire number examined: trachoma 5; ulcers 7; sympathetic ophthalmitis 5; injury 2; buphthalmos 6; congenital microphthalmos 1; glaucoma 1; interstitial keratitis 4; sclerotising keratitis 1; congenital, including retinitis pigmentosa, 6; optic atrophy, from injury 3, and from other causes 9. The paper concludes with the following words: "To one interested in social science, it may be pointed out that, if we assume that the gonococcus caused nearly all ophthalmia neonatorum, then venereal disease, as represented by ophthalmia neonatorum and interstitial keratitis, is responsible for eighteen of the sixty cases, or nearly 30 per cent. of the blindness."

Hippel, E. von.—The frequency of Joint affections in congenital Syphilis. *Munch. Med. Woch.*, August 4, 1903.

Von Hippel deals with the actual frequency of joint affection in congenital syphilis, basing his results on his experience as an ophthalmic surgeon, an experience which, he says, offers more chance of collecting large numbers of cases of congenital syphilis than the practice of other specialists. In a large number of cases he found keratitis parenchymatosa, but did not allow this alone to be the proof of the congenital disease, although it is most frequently caused by the congenital syphilis. There were other signs, such as characteristic history, scars about the mouth and nose, ozæna, Hutchinson's teeth, labyrinthine deafness, painless otitis media, periostitis of the tibia, swelling of lymphatic glands, etc., in all the cases, before he allowed them to be entered into his statistics. In all he reports on 77 cases, of which 9 had no joint trouble, and 68 showed more or less distinct joint changes; some, however, were not seen by Von Hippel himself, but only reported to him. He has been able to determine joint changes in 43 cases, so that if one accepts the reports, the percentage would be 63 per cent., but if one limits it to his personal observations it would be 56 per cent. Males were as frequently affected as females. Five of the cases had no keratitis parenchymatosa, 2 of whom had other forms of eye troubles, and 3 had no eye troubles at all. Of the 43 cases 41 showed knee joint affection—35 times alone, 6 times with trouble in other joints as well, while in 1 case only the elbow was affected, and in 1 case there was "rheumatism" in several joints. In the 6 cases in which other joints beside the knee were affected, the elbow was affected 4 times, the carpal joints twice, and the finger-joints once. In 3 cases there was severe pain in the knee-joint, in 1 there was loud cracking in the joint, and in 1 there were multiple scars adherent to the bone; 36 times there was considerable swelling due to effusion into the joint, but in none save 3 cases was there any marked thickening of the bone. Of these 36 cases 33 showed both knees affected, and in only 3 one knee was attacked. In the elbow case there was ankylosis. He emphasizes the fact that in a large majority of the cases there was effusion into the knee-joint. The affection of the joint set in most frequently between the ages of 6 and 10 years, but up to 20 years it appeared not to be uncommon. Of the 35 cases in which keratitis parenchymatosa and joint affection were both present the joint affection preceded the other in 32 cases. In 10 of these the interval varied between 2 and 15 years. Von Hippel points out that the diagnosis of the nature of the joint affection is rendered difficult, inasmuch as the eye trouble so frequently follows it, and unless the practitioner keeps in mind the possibility of a joint trouble, an effusion into a joint being syphilitic, many of the cases will be incorrectly diagnosed. Since the knee-joint effusion is much more common than any other signs of congenital syphilis, for example, Hutchinson's teeth or labyrinthine deafness, it appears to him that in all cases of suspected congenital syphilis one should inquire if there has been any knee-joint trouble, and if there has the diagnosis will be more probable.

British Medical Journal, September 19th, 1903.

Smith, Priestley.—A Balance for Knife Testing. *Ophthalmic Review*, August, 1903.

This instrument has been introduced for the purpose of testing and comparing the points and edges of knives, etc. It consists simply of a balance, on one end of which is an ordinary drum with leather stretches across, and on the other limb of the balance is a weight which, by sliding it along, can be made to vary the pressure from 0 to 18 grammes. In this way comparison of points and edges can easily be made. The instrument is made by R. Bailey, Optician, Bennett's Hill, Birmingham.

REPORT UPON STANDARD TEST-TYPES AND ON READING-TESTS.

The following is the Report of the Committee* appointed by the American Ophthalmological Society upon test- and reading-types. The Report was accepted, and the recommendations adopted at the Meeting held in May, 1903, at Washington. The Report itself is taken from the Society's *Transactions*, Vol. X (1903), Part I., page 189.

1. That the standard of normal acuteness of vision assumed by Snellen, namely, the ability to recognise isolated capital letters whose height subtends a visual angle of five minutes (5′), and the width of whose component limbs subtends an angle of one minute (1′), also Snellen's notation embodied in the formula, $V. = \frac{d}{D}$, as used by him to record the observed acuteness of vision, ought to be definitively retained.

2. That a gradation of the several sizes of test-letters in geometrical progression, conserving as many as may be of the numbers included in Snellen's series, is to be preferred to the sequence of unequal ratios adopted by him and still in general use. Two geometrical series, based on the common ratios, $1 : \sqrt{2}$ and $1 : \sqrt[3]{2}$ respectively, as explained in detail in an appendix to this Report, are recommended.

3. That the simplified form of capital letters known to American printers and sign-painters as "Gothic," is to be preferred to the "block-letter" employed by Snellen.

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*The Committee consisted of Charles H. Williams (Chairman), Wm. Thomson, W. S. Dennett, and John Green.

4. That for reading-tests (following Jaeger) ordinary print of uniform character and gradation in size, as far as practicable, should be used.

5. That the standard, in reading, should be the ability to read print in which the height of the short "lower-case" letters subtends a visual angle of five minutes (5′). To record the observed reading power, it is recommended that Snellen's notation be employed in the slightly altered form, $L=\frac{d}{D}$, in which L (*lectio*) represents the reading power, d the greatest distance (in decimeters) at which the print is read, and D the distance (also in decimeters) at which it subtends the standard angle of five minutes.

Series of test-types and reading-tests, embodying these recommendations, are now in course of preparation; from the material at hand it is believed that standards more perfect than have been hitherto produced may be arranged.

There is an appendix to the Report by Dr. John Green, dealing with test-types for distant vision. He favours the "Gothic" form of letter, and an arrangement, as far as may be, in true geometrical progression. "The selection of such letters of the alphabet as are best adapted to use as visual tests turns somewhat on the kind of letter, but much more on the form and construction of individual letters. Rejecting I J as too narrow; M W as too wide; G Q as unsatisfactory in their block-letter and Gothic forms; K X on account of their oblique lines; B S by reason of too great preponderance of horizontal or approximately horizontal lines; L as more easily recognisable than the other letters made up of rectangular lines; R as liable to be confounded with N or P; Y as often miscalled T or V; and Z which is found to be a stumbling-block to many children and half-illiterates; there remain five square letters—E F H N T; two letters of triangular form—A V; and five round or half-round letters—C D O U P. Of these it has been found that A and V, although of somewhat smaller area than the square letters, are of nearly equal legibility; but that the round letters are somewhat less easily recognised. C D O, F P, H N, and U V, also form minor confusion groups or pairs, which must be taken into account in interpreting and recording individual tests made with persons of more or less accurate habits of observation."

NOTES AND ECHOES.

Annual Meeting of the British Medical Association - Section of Ophthalmology.

As most readers are aware, the next annual meeting of the British Medical Association will be held at Oxford towards the end of

July, 1904. The section of Ophthalmology will be presided over by Mr. R. W. Doyne, Reader in Ophthalmology in the University. The Vice-Presidents are Mr. G. E. Wherry (Cambridge), Mr. Cyril H. Walker (Clifton), and Mr. F. Mentieth Ogilvie (Oxford). Mr. F. G. Thomas (Swansea) and Mr. S. Stephenson (London) will act as the honorary secretaries. Three interesting discussions have been arranged, as under: 1. Retro-ocular neuritis, to be opened by Mr. R. Marcus Gunn; 2. Intra-ocular hæmorrhages, by Dr. Hill Griffith; and 3. Keratitis profunda, by Mr. W. T. Holmes Spicer. By a happy inspiration, Keble College has been retained for the accommodation of the section, but as space in the college is limited, and as a large contingent of foreign and American guests is expected, early application must be made for rooms. There is one drawback only to the arrangement, namely, that ladies cannot be put up within the classical walls of the college. Hence members accompanied by their wives or daughters must perforce seek lodgings elsewhere.

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Blindness.

THERE are few medical subjects more attractive to the much-talked of "man in the street" than that of blindness. The situation is so dramatic, so complete in its pathos and its desirabilities that it appeals to his deepest-rooted sympathies and imagination. Small wonder, then, that the modern journalist turns his ever restless attention to all matters relating to the sight. From the point of view of the medical profession there are two distinct ways in which a matter of the kind may be treated, and these may be called, for want of better terms, the legitimate and the illegitimate paragraphic notice. Of the illegitimate form we have of late had several notorious instances. Some quite ordinary operation is performed for the removal of an opaque medium, and sight being partially or wholly restored straightway, the name of the surgeon is trumpeted far and wide under some such heading as "Sight restored to the Blind," or, "The Blind made to See!" Naturally an incident of this kind is extremely offensive to a profession so jealous of its honourable traditions as that of medicine.

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Colour-Blindness.

OF the kind of newspaper notice that may be called legitimate we have recently had an excellent example in an interesting lecture delivered by Dr. Edridge-Green before the Anthropological Society. His theory of colour-blindness is, briefly, that it is a reversion to an ancestral condition, and that the colour-blind person of to-day sees things as primitive man saw them. This subject is of great interest to all intelligent persons, whether they belong to the medical profession or otherwise. A condensed abstract of some of Dr. Edridge-Green's points follows. It is taken from the *Daily Mail*, Wednesday, Nov. 11th, 1903.

* * * *

THE lecturer handed round a book containing pictures painted by colour-blind persons. With its illustrations of sky-blue donkeys and blood-red horses the book was a curious one. Dr. Edridge-Green explained that colours do not in reality exist, but are the product of civilisation. For instance, the primitive man saw all things dressed in the same neutral tint. Then came increased perception, and Homer, looking out upon the world, saw things in two colours. Later Xenophon saw three colours, and Aristotle got as far as four. So things progressed till six colours were general. Then Newton claimed that there were seven, and though this is still disputed, there is apparently no reason why, now that civilisation has begun to progress rapidly, colours should not be multiplied greatly. Up to the present, however, various shades of one colour are called by the same name. The sky-blue donkeys and the blood-red horses merely mean that the painter's eyesight was of the same calibre as that of the comparatively uncivilised Egyptian who painted green negroes, and of the early Greeks, who frequently saw green horses.

* * * *

Trachoma.

THE limitations of modern surgery are well illustrated by the position of affairs with regard to so common and so disastrous a malady as trachoma. In spite of the enormous amount of painstaking research that has been bestowed upon that disease of recent years, it can hardly be said that we are any nearer the ultimate pathology of that particular morbid process than we were a generation ago. The main advances have been in prevention, and perhaps the greatest stride ahead is the striking and interesting fact that "granular lids" can be cured by exposure to focus-tubes—*alias* X-ray treatment—and to a "high frequency" brush discharge.

* * * *

HERE in the United Kingdom the virtue of the scientific investigator is for the most part his sole reward. They manage that sort of thing better abroad, at least, so we gather from a recent official announcement by the Hungarian Minister of the Interior, of a prize of 100,000 marks for the best essay upon the pathology and treatment of trachoma. To be successful essays must show a tangible advance along one of the two indicated lines. The prize may be divided. Essays, which may be in any language, must be sent in by the end of 1904. A step of this kind might well be imitated by His Majesty's Government. Let us say under the patronage of King Edward VII., half a dozen prizes of £2,000 each were offered for the best essays on scarlatina, comparative tuberculosis, trachoma, malignant tumour, rheumatism, and measles, would there not be a field of possibilities opened up of untold value to our fellow-countrymen of the present and of future generations, not to mention mankind at large?

* * * *

Sir Anderson Critchett and St. Mary's Hospital.

THE retirement of Sir Anderson Critchett from the staff of St. Mary's Hospital has been the signal for an outburst of friendly recognition on the part of his colleagues. For twenty years he has acted as ophthalmic surgeon to the Hospital. On the 20th November last a presentation was made to him by Sir William Broadbent, who alluded to the value of Sir Anderson's work in the Hospital. The speaker said that was the first opportunity he had had of publicly congratulating his colleague upon being appointed Surgeon Oculist-in-Ordinary to His Majesty the King. All who are personally acquainted with Sir Anderson Critchett will recognise the faithfulness of the statement that " geniality of presence and kindheartedness distinguished him on all occasions, while he brought a cheerful gaiety into all his associations."

* * * *

The British Association and Schools.

THE British Association has done well in discussing the important question of the relation of defective eyesight to school life. A sub-committee, under the Chairmanship of Professor C. S. Sherrington, reported that the three preventable causes of that kind of trouble were: (1) defective and flickering lighting of school buildings and rooms; (2) faulty position of scholars with regard to light and with regard to the work upon which they were occupied; and (3) bad type of print and writing both in school books and upon blackboards. Other less obvious and less direct causes were defective nutrition, insufficient sleep, home lessons in bad light, and, generally, arid hours of bad environment. Recommendations were: (1) that all schoolrooms be properly lighted; (2) that scholars maintain erect positions with regard to the light and to their books; and (3) that paper and type of books should be appropriate, and that writing on blackboards should be clear and bold. It is to be hoped that the labours of the Committee will bear fruit in the introduction of much-needed reform into the dimly-lighted schoolrooms that exist wholesale throughout the length and breadth of the land.

The Optician Question.

THAT the optician question has reached an acute phase in countries other than Great Britain is attested by the following paragraph, taken from a recent number of the *Australasian Medical Gazette.* "We print some extracts," says that journal, "from a circular sent to medical men by a Sydney firm of opticians (the italics are ours throughout):"

"My dear doctor,

"At this address I have rooms specially devised and fitted for the *exclusive practice of scientific ocular refraction.*

"As indicative of the thoroughness which marks the equipment of my chambers, I may state that dark room, ophthalmoscope (*sic*), skiascope, prisoptometer, ophthalmometer, colour tests, tests for motor muscle imbalance, as well as the usual forms of subjective forms of examination, are here available for the successful determination of *every known form of visual error*, and its (*sic*) correction.

"These, combined with much experience and a thorough knowledge of our *profession* (!), *invariably secures* (*sic*) *most successful results from every standpoint.*" (How enviously ophthalmoscopic surgeons must aspire to such a triumph !)

The circular goes on to solicit the patronage of the doctor, who has "perhaps neither the time nor the inclination to undertake cures of refraction." "No drugs," they say, "are included in our treatment, neither does any instrument come in contact with the eye." They offer to "demonstrate to you personally that we are thoroughly competent," and conclude by offering a *quid pro quo* in the shape of a "perpetual calendar" should the doctor write them a letter approving of their circular.

* * * *

This production might be regarded with admiration or amusement according to the point of view of the reader, and we should not consider it worth notice were it not that it was within our knowledge that a few medical men are in the habit of sending refraction cases to opticians. Doubtless it is done thoughtlessly, and we feel sure it is only necessary to point out how wrong this practice is, from every standpoint, to secure its discontinuance. If a surgeon (ophthalmic or other) were to say to a patient, "You have a cough ; I believe your lungs are affected ; go to Blank, consulting chemist, No. — ————street, he will sound you, and examine you thoroughly, and prescribe for you ;" or if a physician were to send a fracture to an unqualified bonesetter, would the physician or surgeon be doing his duty either to the patient or the profession ? And yet the case would be on all fours with that of a qualified medical man sending a refraction case to an unregistered person. The circumstances of the patient

THE

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A MONTHLY REVIEW OF CURRENT OPHTHALMOLOGY.

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ORIGINAL COMMUNICATIONS.

CASES OF OPTIC PAPILLITIS IN ENTERIC FEVER IN CHILDREN.

By GEORGE CARPENTER, M.D. Lond., M.R.C.P.
EDITOR OF THE *British Journal of Children's Diseases.*

The occurrence of optic papillitis as a complication of enteric fever cannot be considered other than a rarity. The two following illustrations (which I give in full) of the conditions are therefore not without clinical interest. I have seen one or two other examples of the condition, but, as no good purpose would be served by unnecessarily labouring the point, I will content myself with the bare assertion of the fact.

Case 1.—S.W., aged 11 years, was taken ill on May the 29th: she had headache, loss of appetite, and was thirsty, drowsy, and retched. On June the 5th she was apathetic, her left conjunctiva was somewhat injected, and she had a short, loose cough, and her throat was sore. The skin was moist. Gurgling was detected in the right iliac fossa. The spleen was not enlarged. The pulse-rate was 112 and the respiration-rate 24 to the minute; her temperature was 100.6° F.

On June the 7th, rose-coloured spots appeared on the abdomen, which was tender. Her tongue was brown and the teeth were covered with sordes. Rhonchi were audible all over the chest. The free edge of the spleen could be felt below the edge of the ribs. Her temperature had not been below 102°F. The catheter had to be used. On June the 8th slight optic papillitis was detected in both eyes.

On June the 12th there was a note to the effect that she was deaf. She had been drowsy and delirious while under observation, and had complained of abdominal pain. She had slept well. Her temperature had not fallen below 102°F.

On the 15th she was sick once. She had been having typhoid motions since coming under care, seven evacuations being the most in the twenty-four hours. No fresh spots appeared, and those present were fading. The temperature had been falling—99°F. was the lowest.

JUNE 16TH.—The optic papillæ are very swollen and greyish, the indistinctness of the edge extending a little way into the retina. In the right eye especially the fine vessels extending directly outwards on the optic disc are "corkscrewy." There is, in fact, slight but distinct diffuse optic papillitis, such as frequently occurs in meningitis.

JUNE 18TH.—The spleen was on a level with the costal margin. Typhoid spots were to be seen on the abdomen, back, left forearm, and right buttock. She had two typhoid stools on this date; the bowels had not acted previously for two-and-a-half days. The temperature had been as low as 98°F., but there was still fever.

JUNE 26TH.—The abdomen, back, and chest were desquamating. The spleen, which was tender, was on a level with the costal margin. The typhoid spots had vanished and the temperature had fallen to subnormal. She had been constipated and required enemata. There was more uniform swelling in the right eye, the right optic papilla being pale whitish-pink, with a hazy, whitish-grey margin.

JULY 14TH.—It was very doubtful if there were any patellar reflexes present. There was ankle-clonus; it was but slightly marked, and lasted only for a short time.

JULY 29TH.—The left optic papilla had a decided woolly appearance and no physiological pit was discernible. Several minute "corkscrewy" arteries could be seen curling over the face of the optic disc. The right optic papilla did not appear "woolly." There was a suspicion of fogginess about the upper and lower borders of the disc. There was no physiological pit, and several minute twisty vessels could be seen coursing over the face of the disc. She was sent to a convalescent home on August the 3rd. Her general health was good, but I have no notes as to the state of her fundus oculi.

Case 2.—Jane H., aged 7 years, was seen on November 1st. She had been in good health until fourteen days previously, when she had "a sore throat, and her tongue was ulcerated." On the 29th of October she began to get drowsy and talked in her sleep. On examination, she was drowsy, and her abdomen was tense and tympanitic. A few rhonchi could be heard in her chest. Her spleen was not enlarged. The temperature was 102°F.; the pulse-rate 100 and the respiration-rate 32 to the minute. Her optic discs were blurred and heightened in colour and there was slight tortuosity of the retinal vessels.

NOVEMBER 2ND.—A number of typhoid spots have appeared over the abdomen and flanks; the abdomen is tense and tympanitic.

NOVEMBER 5TH.—There were a number of spots over the abdomen and lower part of the chest. She was constipated and required enemata. Her temperature had not fallen below 101°F.; the highest was 104°F. She had been delirious since the 1st inst. She complained of abdominal pain.

NOVEMBER 6TH.—The optic papillæ were more blurred. They were red, more swollen, and their edges were not defined. The vessels were numerous and the veins very tortuous after leaving the disc. This condition was rather more marked on the left side. She lay all day in a drowsy condition, and this had been more pronounced the last day or two.

NOVEMBER 8TH.—A few spots scattered over the abdomen and chest. Râles to be heard over the chest. No delirium at night for the last four or five days. Less apathetic. Abdomen softer. Lowest temperature, 100°F.

NOVEMBER 13TH.—Temperature sub-normal since the 12th. Has been constipated and required enemata. Both discs are decidedly red and ill-defined, the right disc particularly so.

NOVEMBER 18TH.—Abdomen soft, but still rather drum-like.

NOVEMBER 25TH.—The field of vision was roughly measured with a piece of white chalk and a black-board, and it was thought the left eye presented a wider field than the right, which was somewhat limited in comparison.

DECEMBER 1ST.—She was remarkably quiet, seldom spoke and hardly answered when spoken to; the abdomen was soft.

JANUARY 3RD.—She had been walking about for some days. She walked fairly well but with a bent spine. She appeared pale The optic papillitis had almost disappeared.

JANUARY 10TH.—She was sent to a convalescent home, quite well, and in good spirits.

Remarks.—I do not claim to have examined the fundus oculi of every case of enteric fever that I have seen in children, far from it, I must admit, to my great regret; but as an aid to diagnosis I have been for years accustomed to rely upon the ophthalmoscope and to examine the fundus in all cases in which there has been a doubt as to the nature of the illness in the hope, as has not infrequently happened, that I might light upon some clue to guide me to the diagnosis of an obscure malady.

In an appeal to the fundus oculi—an appeal which, although attended by many disappointments, has frequently rewarded me for my pains in difficult situations—I have on very many occasions examined the fundus of cases which have subsequently been proved to be enteric.

I have also, from time to time, examined cases that I have known to be enteric, in the hope that I might light upon some fresh acquisition which would aid me in clinical diagnosis and so increase my points of vantage.

As the result of my observations I have encountered many perfectly healthy fundi; but I have also, although quite rarely, as just narrated, met with cases of definite optic papillitis of a type which is not uncommon in tuberculous meningitis. Anything akin to the marked optic papillitis that occurs in cerebral tumours or abscess, it has not been my good fortune to witness, but I do not doubt that that even occurs on occasion, and would be discovered if it were the custom to make routine examinations of the fundus in all cases of medical diseases, more particularly in the specific fevers.

Apart from a routine appeal to the fundus oculi, slight optic papillitis is not a condition which makes its presence felt by definite objective symptoms. Marked optic papillitis will readily pass undetected, in the absence of an ophthalmoscopic examination.

Physicians who are accustomed to the use of the ophthalmoscope do not often make ophthalmoscopic examinations in the absence of a definite objective, and to ophthalmic surgeons the opportunity and leisure are not afforded to conduct a routine examination of medical cases, so that much, no doubt, is lost that would otherwise be discovered under a more carefully organised system of clinical research.

There is no reason to suppose that either of the cases narrated by me were complicated by meningitis. On the contrary, the cerebral symptoms which they presented during their illness were those usually associated with enteric fever and resulted from the action of the toxins on the central nervous system.

One of my cases, it will be noticed, presented certain nerve symptoms during convalescence, *viz.*, absence of the patellar reflexes and trifling ankle-clonus, doubtless due to toxic action on the peripheral nerves and spinal cord, and there is a strong probability that the toxin was also responsible for the optic papillitis. Multiple neuritis is an occasional but well-recognised complication of enteric fever. The other child showed some signs of slight dementia during convalescence, resulting from cerebral toxæmia. In both instances, therefore, the nervous system was affected to some slight extent.

I have seen slight optic papillitis in other specific diseases, *e.g.*, septicæmia in a case of acute middle ear disease simulating meningitis, pneumonia, diphtheria, whooping cough, and congenital syphilis, and I have no doubt that it would be found more frequently than it is in specific fevers if it were carefully looked for.

The time was when optic papillitis, apart from orbital tumours, renal disease, leukaemia and severe anæmia, indicated to me intracranial disease, but a more extended acquaintance with the fundus oculi in disease while amplifying one's knowledge of the clinical disorders, other than cerebral, which are occasionally, though perhaps rarely, to be found in association with optic papillitis, have at the same time lowered its value as a sign of a coarse brain lesion, and so its usefulness as a diagnostic point and help.

As more medical men are trained to the use of the ophthalmoscope, ocular complications which have been looked upon as rare in association with certain medical disorders will, doubtless, be found to occur with greater frequency.

BLEPHAROPLASTY BY MEANS OF TWO PEDUNCULATED FLAPS.

By Étienne Rollet.

CHIRURGIEN DE L'HÔTEL-DIEU; PROFESSEUR AGRÉGÉ DE L'UNIVERSITÉ DE LYON, FRANCF.

[Translated by W. Ernest Thomson, M.D.]

The surgeon is frequently called upon to replace an eyelid which has been destroyed by an operation or distorted by a cicatrix, and although blepharoplastic operations are already numerous, one not rarely reads in the various periodicals the description of new autoplastic attempts or of encouraging æsthetic results. Thus quite recently (1) Lagleyze has described an autoplasty by sliding, for the lower eyelid ; Manolesco has modified the Indian method, retaining the flap with large pedicle, and applying it by sliding, not by torsion ; and Lagrange has introduced a blepharoplasty by the Italian procedure, one arm of the patient being kept applied to the palpebral region for twenty-two days.

Blepharoplasty, in fact, like all autoplastic operations, can be modified according to the diverse circumstances which necessitate its performance. As Roux has said, it cannot be always like itself, for the numerous varieties of ectropion, or of deficiency following extirpation of a tumour, must necessarily modify the plan of operation. It is possible, however, to state general rules as to the choice of operation, and we shall say that when the cicatricial ectropion is limited in extent, or when the tumour removed is small, it is proper to follow the French method of sliding flaps as carried out in the operations of Wharton-Jones, Guérin,Ammon, Serre, Dieffenbach and Richet.

On the other hand, when an eyelid is destroyed or everted by cicatricial tissue, recourse must be had to (1) cutaneous grafts; (2) the Italian method, in which the flap is derived from a distant region, and from which it is detached only after its vitality is assured; or (3) the Indian method, in which the flap is taken from the vicinity, and drawn into the part to be reconstituted by pulling down or twisting the pedicle.

For my part, I consider that the first and second methods are to be rejected in most cases. As a matter of fact, cutaneous grafts die, either in whole or in great part; they cannot make a pliant eyelid; and only very indifferent results can be looked for by this means. The Italian procedure insures a living and well-nourished flap, but it necessitates a brachiocephalic plaster apparatus, which is very troublesome to bear with for several days; the pedicle is dragged upon, and union interrupted, so that the autoplasty with its projecting edges is unsightly. This latter is superior to the graft method, but has not much to recommend it.

After trying each of these repeatedly, I give the preference to the Indian operation.

It is true that it is a classic dictum—and Kuhnt (2) has just insisted again on this precept of the pre-antiseptic period—that the cicatricial tissue ought always to be entirely excised before doing a blepharoplasty. If this principle be granted, the Indian method becomes inapplicable to those numerous cases in which the eyelids and neighbouring parts are transformed into cicatricial tissue. But, for all that, I may say that I have shewn quite recently (3) that *blepharoplasty with entirely cicatricial flaps* may give excellent functional and æsthetic results, and that the cicatricial tissue may constitute a good material for the purpose. It is therefore clear that in any case it is possible to employ the Indian method, or blepharoplasty with a pediculate flap.

The different procedures are well known ; those of Fricke, Blasius, Hasner, and that of Denonvilliers, which avoids torsion of the pedicle by inclining it by *pivotement* (4). These methods of employing, in the formation of the upper lid, a large, thick, prominent flap such as is represented in the drawing of a patient of Terrien (5), are open to objection. The same criticism is applicable to the similar operations on the lower lid. Further, as to the repaired eyelid, there is asymmetrical dragging from the pedicle side, often there is great tension at the apex of the flap, and, finally, a gap of considerable importance has to be filled in, namely, the raw surface left by the dissection of a single flap, which must be large enough to allow for subsequent shrinkage.

For several years past, when I have had to deal with any considerable loss of substance of the eyelids, I have employed a method with two pedunculated flaps of my own contrivance, of which I have found no mention in the works of any author, and thanks to which the inconveniences indicated above may be avoided. The following is a summary of the method of operating, the reading of which will be greatly aided by the accompanying figures (6).

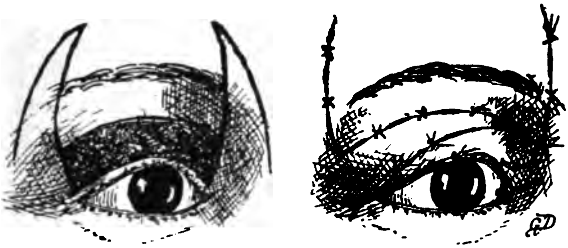

FIG. 1.

The cicatricial tissue is incised, but I repeat that in spite of classical notions to the contrary it is not to be excised. It is reflected in such a manner that the flaps can be implanted in the middle of this cicatricial surface. The flaps are next to be cut (Fig. 1). For the upper lid a naso-frontal flap, commencing under the supero-internal angle of the orbit, is shaped with the bistoury, the knife going down to the bone at the first incision. The flap is shaped like a half-slice of melon with the concavity turned towards the temple. Its length and breadth are essentially variable according to the surface to be covered. A second flap, temporo-frontal and symmetrical with the first, is cut with its base below the temporo-external angle of the orbit. Its concavity is turned toward the nasal side.

These two flaps are dissected, bent over and put in position, the first outward and downward, the second inward and downward. They are superimposed and sutured with fine metallic thread (annealed iron thread). Special attention is paid to the sutures at the apices of the flaps; these are inserted first. The separate points of suture are removed on the fifth day.

The same operative *technique* is employed for the lower lid, (fig. 2), namely, shaping of a falciform flap next the nose, then of a malar one, these forming half-crescent-like strips of which the concavity is turned toward a vertical dropped from the middle of the eyeball; dissection, mobilization, bending inwards, adjustment and suture of the raw surfaces. Vertical cicatricial lines result from the suture of the lips of the wounds due to the cutting of the two autoplastic strips, but they are not much seen because of the narrowness of the loss of substance. The marks can be considerably lessened if one uses at the time of operation only an overcast intradermic suture of silk (7).

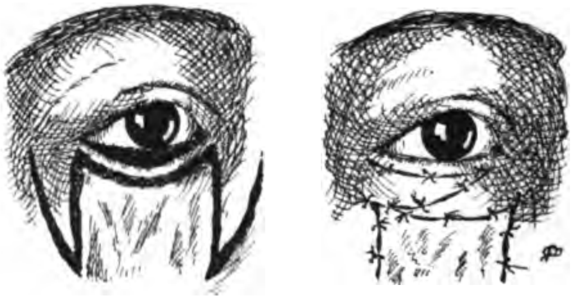

FIG. 2.

I have applied this method in three patients with cicatricial ectropion, and have obtained a satisfactory æsthetic result. I thus avoid the formation of a clumsy and unsightly eyelid, and thanks to the two symmetrical lateral pedicles, the movements of the eyelids are more nearly physiological in character than with the single lateral pedicle of the Indian method.

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CLINICAL, PATHOLOGICAL, AND THERAPEUTICAL MEMORANDA.

A CASE OF CONGENITAL LACRYMAL FISTULA TREATED BY THE GALVANO-CAUTERY.

By ANGUS McGILLIVRAY, C.M., M.D., F.R.S.E.,

LECTURER ON OPHTHALMOLOGY, ST. ANDREWS UNIVERSITY; SURGEON, DUNDEE EYE INSTITUTION; OPHTHALMIC SURGEON, DUNDEE ROYAL INFIRMARY.

Congenital lacrymal fistula being one of the rarest developmental anomalies met with in ophthalmic practice, the following notes of a case, which recently came under my notice, may be of interest to the readers of the OPHTHALMOSCOPE.

Lizzie S., aet. five years, was brought to me on the 18th April, 1903, by her mother, who gave me the following history: when the child was three weeks old, the mother observed on the outer side of the right upper eyelid what she called a "tear drop," which on being wiped away, quickly reappeared. Soon afterwards she was astonished to find when the child cried, some tears trickling down the cheek from a little opening in the skin at the seat of the "tear drop." Nothing however was done to remedy the condition, as the parents were informed that the opening would likely close up as the child grew older. Their expectations not being realised, and anxious that something should be done to check the troublesome flow of tears, which at times, especially in cold weather, caused excoriation of the skin of the cheek, the parents decided to have the opinion of an ophthalmic surgeon.

On examination, a drop of tears was seen exuding apparently from a tiny opening situated 1.4 mm. out from, and 1.50 mm. above, the external canthus. This opening, circular in outline and measuring 1.50 mm. in diameter, was surrounded by a few fine hairs averaging about 3 mm. in length. On slight pressure over the skin, between the situation of the lacrymal gland and the opening, a few drops of tears could be expressed. Careful examination of the eyes gave negative results. The lacrymal apparatus appeared normal, and there was no evidence of any other congenital anomaly. The child looked the picture of health.

I advised operation, explaining however, that by closing the opening there was a risk of setting up retention of tears in the lacrymal gland. On the 28th April, chloroform was administered by Dr. Kerr, and as soon as the mask was placed over the face, the child began to cry copiously. This timely incident afforded us an excellent opportunity of observing the tears flowing freely down the cheek through the fistula, and at the same time of assuring ourselves that the regular channels from the lacrymal gland on to the conjunctival surface were patent. When the patient was anæsthetised, a fine Bowman's probe was passed through the opening along the duct to ascertain its direction and origin. The probe passed easily upwards and inwards in the direction of the lacrymal gland for about 10 mm., but no further. Satisfying myself that the duct had no communication with the upper cul-de-sac and that it led directly to the lacrymal gland, I dilated it along its whole course by passing, with slight force and twisting motion, a No. 6 Bowman's probe. The straight point of an ophthalmic galvano-cautery was then passed up the duct as far as it would go and the circuit completed. In an instant the whole length of the duct was cauterised, and the cautery point withdrawn. No dressing was applied. At my visit on the following day no swelling was found over the region of the lacrymal gland, and the mother informed me that no tears were seen, although the child cried a good deal after wakening up. The recovery was uninterrupted and complete.

When the case was shown at a recent meeting of the Forfarshire Medical Association, the only trace of the former opening that could be seen was a small, circular, flat scar, which, unless carefully looked for, would readily escape observation.

BOSTON MEDICAL LIBRARY

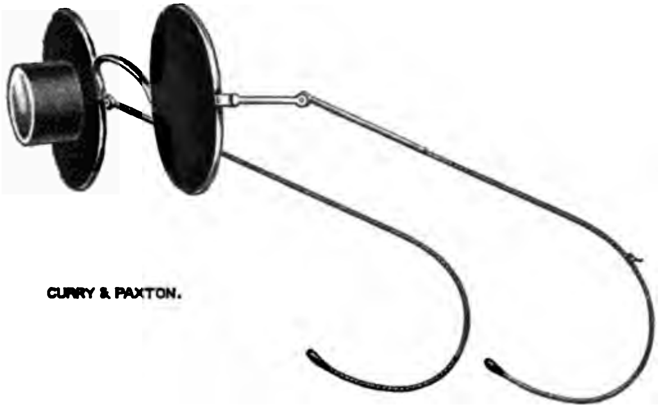
A SIMPLE DEVICE FOR ASSISTING THE SIGHT OF PERSONS WHO ARE ALMOST BLIND.

By Robert W. Doyne, F.R.C.S.

READER IN OPHTHALMOLOGY IN THE UNIVERSITY OF OXFORD, ETC., ETC.

For some little time I have employed the simple device shown in the figure for the purpose of rendering some help to patients whose sight was very defective, especially those who have some macular defect but not sufficient to destroy all central perception. It consists of an ordinary spectacle frame, one eye of which is occluded by means of a vulcanite or aluminium diaphragm, while the other is fitted with a triple 2-inch objective, such as is used in the microscope. The lens is equal to 30D, and has a focus of 1¼ inches. The lens is placed in front of the better eye, and by its aid patients who have been unable to read books or newspapers have in some cases been enabled to do so in comparative comfort and with satisfaction to themselves. It is of some importance that the spectacle frame be well "angled," so as to make the front of the lens parallel to the plane of the book. So far I have prescribed the apparatus only with the object of helping one eye.

There would, however, be no mechanical difficulty in adapting it to patients who could use both eyes, although it is a question whether it could be used with comfort, owing to the great strain put upon convergence by the closeness of the print to the face. Finally, I may add that the spectacles are made and sold by Messrs. Curry & Paxton at a cost of 25s. I hope that other ophthalmic surgeons may find them as useful in certain cases as I have myself.



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I.—ANATOMY, PHYSIOLOGY, PATHOLOGY, AND BACTERIOLOGY.

Cirincioni, G.—Cysts of the Conjunctiva. (Die Cysten der Conjunctiva.) *Beiträge für Augenheilkunde*, 55tes Heft, March, 1903.

This is a very painstaking contribution which seems to shed some light on a small but rather obscure subject. The author does not refer to congenital cysts and divides the rest—rather unsatisfactorily—into acquired lymphatic and parasitic cysts. The acquired conjunctival cysts are either superficial or deep-seated. The former, also known as serous cysts, appear in the conjunctiva fornicis, or in the conjunctiva bulbi. In the first case they are due to dilatation of the glands of Henle, the existence of which appeared rather doubtful up to now, but which seems to be proved beyond doubt by the researches of the author; the origin of the rare genuine serous cysts of the conjunctiva bulbi remains still doubtful. There are other forms of superficial cysts of much less clinical importance, characterised by their contents, which is turbid, while their size is small, and their seat confines them more specially to the convex border of the tarsus; these cysts are found only in patients suffering from chronic affections of the conjunctiva, mostly from trachoma, and are caused by compression and consecutive degeneration of the acini of the glands of Krause. They may contain cocci and bacilli. "False cysts" the author calls a kind of cyst, invisible clinically, which is due to proliferation of the papillary body of the conjunctiva tarsalis. The papillæ becomes welded, while a small amount of fluid and debris collects between them; something very similar sometimes occurs within a pterygium. The deep subconjunctival cysts are either cysts of the glands of Krause, especially of their duct, which gets distended while the acini obliterate, or else parasitical, especially due to the cysticercus; it is quite wrong in this latter case to expect the worm to be visible from outside; on the contrary, these cysts are characterised by much thickening and inflammation of the neighbourhood, and are consequently mostly opaque; they are, as a rule, more adherent to the sclera than to the conjunctiva. Their danger has been greatly overrated, and their growth is generally limited, owing to the death of the worm. The lympathic cysts are of course, well known; they are almost wholly confined to the conjunctiva bulbi, they are always multiple, of various shapes, exceedingly clear, and of pearl-like brilliancy. The existence of traumatic cysts of the conjunctiva has not yet been proven.

R. GRUBER.

Sachs, B.—On amaurotic family idiocy: a disease chiefly of the grey matter of the central nervous system. *Journ. of Mental & Nervous Disease*, January 1, 1903.

A child, born of Hebrew parents, was seen by Sachs at the age of 2 years and 7 months. There were three children in the family. The first was now six years old and quite healthy. The second died at the age of sixteen months; it was blind for two months before its death, could not sit up straight, never uttered a sound, and, in short, probably suffered from amaurotic family idiocy. The present child was not bright, could not sit up properly, and his sight had gradually failed. Blindness was practically complete at the age of one year, after which the general weakness increased. At about this time the typical changes in the region of the macula lutea were made out. The child had difficulty in swallowing, and was startled by the slightest noise. Death occurred about a month after Sachs first saw the case. Autopsy ten hours after death. Eyes not examined. Brain weighed 784 grammes. Cortex so firm that the knife grated as it passed through. The convolutions were small and presented fissural peculiarities. The fluid in the pia was markedly increased in amount. Sections through almost every part of the central nervous system showed some deficiency in the development of the cerebral white fibres and also a degeneration of the pyramidal tracts in the lateral and anterior columns of the spinal cord. This same degeneration could be traced in the internal capsule, crusta, pons, and medulla. There were changes in the grey matter of the cortex of the brain, the cranial nerve nuclei, in the anterior and posterior grey matter from the cervical to the lowest lumbar and sacral segments of the cord. Even the sacral ganglia showed similar changes. The degenerative changes were beautifully brought out by the Nissl method of staining. The chief changes, aside from an increase of the neuroglia cells, were found in the large ganglion cells throughout the entire extent of the central nervous axis. In the cortex and in the anterior grey matter of the cord Sachs states that there was not a normal ganglion cell to be seen. Briefly, the cell-body was completely altered, and the protoplasm disintegrated, thus leaving a more or less homogeneous mass, while the nucleus was badly defined and peripherally situated. The altered cells were frequently surrounded by pericellular spaces.

Sachs concludes that the morbid process in amaurotic family idiocy affects primarily, or at least to a great extent, the entire grey matter of the brain and spinal cord. The degeneration of the white fibres of the anterior and lateral pyramidal tracts is in all likelihood secondary. The relative involvement of the grey and white matter, however, may vary in different patients.

S. S.

Flemming, Percy, and Parsons, J. Herbert.—Persistent Hyaloid Artery. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

The eye of a child, aged 6 months, was excised, because it was supposed to contain a glioma. When the eye was opened, a fine strand was seen passing through the vitreous from the optic disc to the back of the crystalline lens. In the latter position there was a mass of connective tissue. The eye was smaller than normal (=15 m.m.) On microscopic examination, the fine strand was found to be a single, thin-walled, persistent hyaloid artery.

Thomson, Ernest, and Ballantyne, A. J.—Congenital bilateral pigmentation of the Cornea. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

Thomson and Ballantyne found a faint brown line, composed of many minute, chocolate-coloured dots, vertically situated in the centre of each cornea in a young woman, aged 22 years. No traces of any antecedent inflammation. Myopia. Partial coloboma of each optic disc. The authors, who consider the condition to be a congenital one, refer to similar cases by Krukenberg (*Klin. Monatsbl. f. Augenheilkunde*, 1899) and by Stock (*Ibidem*, September, 1901).

Feleukowski, J. W.—Endogenetic Eye Infection. *Russki Vratch*, February 15, 1903.

It was known long before the bacterial era that certain ophthalmic affections are caused by agents entering the eye through the circulation. This mode of infection is now called "endogenetic" and still presents many obscurities. J. W. Feleukowski analyses the material made available by nearly 150 experiments, partly conducted by himself, partly taken from literature, and considers the following theses plausible: 1. Endogenetic infection of the anterior chamber is constantly being warded off by the normal circulation of the aqueous tumour, by its pernicious effect on bacteria, and by prompt phagocytosis. 2. The posterior chamber offers greater difficulties to the entrance of bacteria, while, on the other hand, it presents better conditions for their development. 3. Bacterial invasion into both chambers is facilitated by trauma and irritation, as well as by the gravity of general infection. 4. The severity of the local infection depends upon the virulence of the bacteria, and on its seat, milder forms attacking the anterior, and severer the posterior chamber. 5. In sympathetic ophthalmia endogenetic infections do not play any part.

American Medicine, Sept. 26, 1903.

(1) **London, E. S.—On the bearing of the Radium Rays on Vision. (Ueber das Verhalten der Radiumstrahlen auf dem Gebiete des Sehens.)** *Archiv. für Ophtalmologie*, Bd. 57, 2, December 22nd, 1903.

(2) **Van Beuren, Frederick, Jr., and Zinsser, Hans.—Some experiments with Radium on Bacteria.** *American Medicine*, December 26th, 1903.

(1) A preparation of radium, if seen under ordinary circumstances, is a granular brownish powder. If, after the eyes have been accustomed to darkness, a little box with

about three centigrammes of bromide of radium is held at a distance of ten to fifteen centimetres, a more or less striking light sensation, like a radiant space with ill-defined borders, opens before our eyes. The following points must be borne in mind : (1) The source of the light sensation lies in the fluorescence of the retina, most likely in its rods ; if there is no light perception, radium rays fail to produce any sensation whatever. (2) The radium rays differ from ordinary rays of light in so far as they are not subject to reflection and refraction ; therefore, things do not become visible in a dark room if radium rays are directed towards them. (3) Radium rays do not increase the acuity of vision. (4) Direct radium rays have a detrimental effect on the human eye ; this effect appears only after considerable time (three to four weeks), and in the author's experiments on rabbits it was found to to include ulceration of the lid, opacity of the cornea, and central retinitis.

The best way to make radium useful, then, appears to be by its action on the fluorescent screen (*Baryum-cyanür*), which under the action of the radium rays emits a brilliant greenish-yellow light, while the surrounding objects are hardly visible. It is also important to note that this kind of light affects the periphery of the retina more than the central part. In this way blind persons who have retained small " rests " of light perception in the periphery, which for ordinary purposes are practically useless, can be taught. By laying a strip of black paper on the screen or by covering the latter with black paper with a vertical or horizontal slit, this class of blind people can be made to see and to trace these lines with the finger and gradually to see more complicated objects or even to read letters on the screen. It will be seen that this method—which the author names " silhouette-teaching "—is connected only indirectly with the properties of radium, in so far as a similar result can be attained by other and older means, as it was done, for instance, by glaring central illumination in Heller's case, in which a seemingly blind boy, who, however, had retained small central fields, was taught to read. It is certainly true, as London says, that his method gives blind persons indescribable pleasure in yielding them some manifestation of a sense which up to then has been dormant, and that it also makes the reading of raised letters by touch afterwards easier and more interesting. It is also very likely that further experiments will lead to important new discoveries with regard to physiology and psychology—as, for instance, the curious fact which London mentions, of a light sensation being produced by the radium-box if held against a certain point of the occiput (*See* OPHTHALMOSCOPE, Vol. I., page 92).

At the same time it must, however, be acknowledged that London has by his honest and straightforward paper done much to remove the delusive hopes and expectations which sensational press statements must have evoked in those interested in the welfare of the blind.

R. GRUBER.

(2) The experiments described in the present communication were conducted at night with twelve mg. of radium, the estimated radio-activity of which was 300,000, taking uranium as the unit. Five experiments were made with cultures of the B. typhosus (2), an unidentified saprophyte (1), B. pyocyaneus (1), and staphylococcus pyogenes aureus (1). As regards any bactericidal properties possessed by radium, the result of these experiments was negative. Hence, under present conditions radium, according to the authors, gives little promise of achieving bactericidal results such as were prophesied for it by the enthusiastic paragraphists of the public press. In order to test the action of radium upon the healthy tissue of the human body, Van Beuren and Zinsser bound the tube containing radium upon the extensor surface of the forearm for 1½ hours but without obvious result, either immediate or remote.

Gatti, A.—Bilateral Congenital Anophthalmos. (Anoftalmo Congenito Bi-laterale.) *Archivio di Ottalmologia*, 1903, Vol. 10, Fas. 11 and 12.

After discussing the bibliography and dissecting the head of a newly-born puppy, Gatti concludes that anophthalmos may proceed from a more or less precocious arrest of development or from the destruction of the fœtal eye by a true pathlogical process. These two causes may co-exist. In each case the anatomist will be able to ascertain which is probably the chief one.

A. ANTONELLI.

Baas, K.—Primary epithelioma of the Cornea. (Primäres Epitheliom der Cornea.) *Zeitschr. f. Augenheilk.*, Dezember, 1903.

According to Baas, primary epithelioma of the cornea is exceedingly rare. He reports a case in an elderly woman. A whitish, marrow-like tumour, scarcely as big as a lentil seed, lay below the centre of the cornea, which was otherwise perfectly clear. The growth was removed, and after hardening in alcohol, was found to be flattened and to measure only about 1.5 mm. Microscopical examination showed that the tumour was an epithelioma, which, since it lay isolated in the midst of the intact cornea, could only be a primary growth of the atter structure.

S. S.

Raehlmann.—On the colour sense in infants. (Ueber den Farbensinn des Kindes.) *Ophth. Klinik,* No. 21, November 5th, 1903.

Previous experiments by Preyer, Magnus, Cohn, and others had tended to show that children could only be proved capable of clearly recognising all colours at a comparatively late age, generally not before they are some years old. Of late Holden and Bosse have shewn by observations on the movements of grasping, that all children, even at the age of 6–7 months, respond promptly to red, orange, and yellow, and a few to green, blue, and violet. At 10–12 months all colours are recognised. The method of laying coloured patterns before the children to be named by them, gives, it is true, a good test of the mental development of the child, and its memory for words in naming the colours; but the fact of the child's giving the wrong name does not prove that it has not recognised the colours put before it.

In order to avoid this mistake, Raehlmann made the following interesting experiment. Two exactly similar feeding bottles, were painted outside—the one red and the other green—the same shade of both colours being employed. One of the bottles, say the red, is regularly filled with milk, the green left empty. Both are offered to the children at the same time, side by side. At first the children shew uncertainty in their movements, in a short time they are able to recognise the bottle containing milk. This experiment shewed no distinction in the degree of ease with which various colours could be discriminated; as soon as the children are capable of grasping consciously, they are able to distinguish all colours with certainty. This stage is reached by some as early as the beginning of the 6th month, by others later.

A. BIRCH-HIRSCHFELD.

Snydacker, E. F.—Anomalous direction of Retinal Vessels on emerging from and entering Optic Disc. *Annals of Ophthalmology,* April, 1903.

Snydacker has found an anomalous distribution of the retinal vessels in ten eyes. The temporal arteries and veins, before proceeding to their regular distribution in the temporal part of the fundus, curved sharply across the disc into the nasal part of the fundus. The cases all presented marked errors of refraction. In seven of the eyes there was a conus below the optic disc. Snydacker estimates that this anomaly occurs once in four hundred patients. He thinks it "is a sign of congenital deficiency in the eye where it is present, and is usually accompanied by other congenital defects."

Bjerrum, J.—How does the pain in Photophobia originate? (Wie ensteht der Schmerz bei Lichtscheu?) *Centralbl. f. p. Augenheilkunde*, April, 1903, p. 97.

Professor Nagel believed that the pain in photophobia was due to a contraction of the pupil caused by light entering the eye, since he found that homatropine by dilating the pupil, abolished the pain in every instance, although it accentuated the dazzling. This explanation, on the whole, is endorsed by Axenfeld. Bjerrum, of Copenhagen, now expresses a definite opinion that contraction of the pupil has little if anything to do with the matter. His arguments are briefly as under:—

1. Surface affections of the cornea cause the greatest degree of photophobia, and not the deeper affections so often associated with iritis.

2. The pain of photophobia is more intense than can be induced by the use of physostigmine in normal eyes.

3. Very painful photophobia may be seen in patients whose pupils are large and motionless.

4. In most cases pain and photophobia are unilateral, and the former is experienced only in the eye and its neighbourhood. Pain is set up by light falling on the affected eye, and not by light falling on the other eye, although the two pupils contract consentaneously. In cases of foreign body on the cornea, when light fell upon the affected eye pain was not reduced when the pupil was dilated with atropine or homatropine. In such cases neither pain nor photophobia was experienced when light fell upon the healthy eye alone.

Bjerrum thinks that the pain is of a reflex nature, travelling from the optic tracts to the sensitive tracts of the eye. He assumes that these are in a hyperæsthetic or painful condition, so that irritation of the optic nerve, usually unfelt, causes pain or exaggerates any pain that may chance to be present. This view appears to be supported by the fact that the pain is relieved more promptly by cocaine than by atropine, on account of the influence exerted by the former upon the sensitive nerve-endings.

II.—DISEASES AND INJURIES OF THE EYE AND ORBIT.

Zur Nedden.—A contribution to the study of tuberculous tumour of the choroid. (Beitrag zur Kenntnis der tuberkulösen Aderhautgeschwulst.) *Klin. Monatsbl. f. Augenhk.*, October 13th, 1903.

Zur Nedden distinguishes three kinds of choroidal tumours: (1) Miliary tubercle without other appearance of disease;

(2) Tuberculous inflammation of the whole uveal tract; (3) Intra-ocular formation of tumours, under which heading he includes conglobated tubercles. The last-named group presents the greatest difficulties in diagnosing, particularly in contradistinction to retinal glioma and sarcoma of the choroid.

Zur Nedden describes two cases of the kind which came under his observation. The first was that of a girl of 16 years, whose right eye was affected. Apparently the progress of the disease was that of irido-choroiditis, but protrusio bulbi and increased tension were also present, so that the case was diagnosed as one of intra-ocular tumour. The microscopic examination of the enucleated eye shewed an extensive conglobate tubercle, which penetrated the sclera, and reached from the papilla to the ciliary body. Perivascular infiltrations of the choroid were also found with isolated giant cells, the retina had changed into a granulated tissue, there was exudation into the vitreous body, slight cellular infiltration of the cornea, and hæmorrhage into the anterior chamber. The second case was in a girl of five years, with protrusio bulbi, secondary glaucoma, and yellowish reflection from the vitreous body. The tumour (which consisted microscopically of epithelioid cells, lymphocytes, and giant cells, and was caseous in the centre), had destroyed a great part of the sclera, and extended over the retina, and along the optic nerve. Iritis and cyclitis were present. The cornea was intact. Bacilli were found in small numbers in the former case; in the latter case, in abundance.

After a detailed review of the literature of the subject, Zur Nedden comes to the conclusion that inflammatory changes in the anterior section of the eye, and an early appearance of protrusion of the sclera (*protrusio bulbi*) are indications warranting the assumption of tuberculous tumour of the choroid. Zur Nedden ascribes the origin of such tumours to metastatic infection through the circulation. The prognosis as regards life is thus an unfavourable one, as in most cases the other organs of the body are also affected.

A. BIRCH-HIRSCHFELD.

Levinsohn, Georg. — On indirect Ruptures of the Iris. *Archives of Ophthalmology*, March, 1903.

Levinsohn reaches the following conclusions:—(1) Changes in the pupillary margin of the iris altogether similar to those following contusion of the eye may be found without any preceding injury and are probably of congenital origin. (2) The indirect injuries of the sphincter and of the iris in general are in consequence of flattening of the anterior chamber and rupture of its elastic walls or of pressure of the aqueous humour exerted equally in all directions. (3) The parts of the iris most liable to injury, named in order of frequency, are ciliary margin, sphincter, and iris proper. (4) Whether the injury occurs on the same side as the trauma or on the opposite side depends on whether the iris offers greater resistance to bursting or to bending. It would seem that ruptures by bursting are more frequent. (5) The changes in the form of the pupil are the result of the injury to the iris and the paralysis of the iris muscles. Usually there is a marked paralysis of the sphincter and a less marked transitory paralysis of the dilator. Ruptures of the sphincter in themselves cause only a low degree of mydriasis.

Collins, Sir William J.—A case of persistent secondary hæmorrhage after enucleation of the Eyeball for intra-ocular sarcoma (Hæmophilia). *Lancet*, October 3, 1903.

A man, aged 50 years, gave a history of several attacks of bleeding, after extraction of teeth, a blow on the nose, and so forth. As he suffered from a sarcoma of the ciliary region, Sir William Collins enucleated the affected eyeball. The operation was followed by serious and long-continued hæmorrhage from the orbit. The remedies, etc., applied with a view to stopping the flow, included adrenalin, ice, douching with hot water, ergot, chloride of calcium, tannic acid, lead lotion, turpentine, and hammamelis. After lasting on and off for about seventeen days, the bleeding finally ceased after the local application of Pengawar Djambi, the stem-hairs of ferns found in Sumatra and Java.

Rockliffe, W. C.—Secondary hæmorrhage after enucleation of the Eyeball. *Lancet*, October 24, 1903.

Rockliffe arrested hæmorrhage after Mules' operation in a "bleeder" by plugging the orbit with pledgets soaked in perchloride of iron.

Villard and Bosc.—The Treatment of Xanthelasma of the Eyelids by Electrolysis: final results. (Traitement du Xanthelasma des paupières par l'électrolyse—Résultats éloignés.) *La Clinique Ophtalmologique*, Jan. 10, 1903.

Villard and Bosc have treated four cases of xanthelasma of the lids, and now give results after periods of three-and-a-half years, three years, two years, and fifteen months respectively have elapsed since operation. They refer to the work of Leplat, and after summarizing his method, proceed to describe their own *technique* and its effects. After intradermic injection of 1 per cent. cocain, they introduce a double needle, both needles being insulated in one handle, and each connected with one pole of the battery. Only for the treatment of small *plaques* do they use a single needle, connected with the negative pole, the other pole being placed on the forehead. The treatment is carried out at one sitting; for small *plaques* of 4 mm. or 5 mm. a single puncture only is required, for larger ones, the patch is divided into areas which are successively punctured. The important point is to neglect no part, and even to go beyond the limits of the diseased area. The single or double needle having been thrust into the skin of the *plaque*, and parallel to the surface, for a distance not exceeding 10 mm., the circuit is closed and the current slowly increased, with a rheostat from zero up to 6 or 8 milli-ampères, as registered on a galvanometer. After two to four minutes it is gradually reduced again to zero.

During the electrolysis the skin of the *plaque* becomes distended with gas and greenish in colour, while the needles are surrounded by a frothy ring. The electrolysed skin forms a superficial slough which comes away eight to fifteen days later. A dark crust then forms, which falls off two or three times before cicatrization is complete, about 3 or 4 weeks later. As the immediate result the xanthelasma has disappeared, and in its place is a little cicatrix which is whitish, smooth, supple, and hardly to be distinguished from the surrounding healthy skin. Regarding the remote results, it is found that no relapse takes place, provided the patch has been thoroughly treated at its edges. The authors conclude with the following words:— "Electrolysis is the treatment to be preferred in all cases of xanthelasmata of the eyelids, whatever their site, number or extent; excision being an exceptional treatment. It entails no loss of substance (the slough being limited to the superficial layers of the skin), no deformity, and gives a perfect æsthetic result. Finally, the cure is complete and definite on condition that the electrolysis has reached and destroyed every part of the xanthelasma and has even slightly overstepped the margins of the neoplasm."

W. ERNEST THOMSON.

Reimar, Max.—The so-called embolism of the central artery of the retina and of its branches. *Arch. f. Augenheilk.*, March, 1899, and *Archives of Ophthalmology*, November, 1903.

According to Max Reimar, the symptoms of so-called "embolism of the central artery of the retina" are typical and invariably the same in their more important characteristics. The obstacle to circulation was thought by v. Graefe to be due to an embolus. But doubts soon found expression as to the universal truth of that view, inasmuch as certain symptoms did not fall into line with the supposition. Thus, Magnus suggested that hæmorrhage into the optic nerve might account for the acute amaurosis, a view disposed of by Leber. Again, the interruption of the circulation has been ascribed to spasmodic contraction of the vessels by various authors, especially by Raynaud in association with the disease of the fingers and toes commonly called by his name. But Panas was unable to detect any alternation of hyperæmia and ischæmia of the retina in the patients with local asphyxia of the extremities whom he examined with the ophthalmoscope at Raynaud's request. A spasmodic contraction of the coats of the arteries may be induced by artificial irritation, but it is not known that a spasm of the kind ever occurs spontaneously.

There remain only three possible forms of obstruction capable of causing the clinical picture of so-called "embolism of the central artery," namely, (1) endarteritis proliferans; (2) thrombosis; and (3) embolism.

(1) *Endarteritis proliferans* may be caused by syphilis, but is usually part of a general arterio-sclerosis. It may now and then be recognised with the ophthalmoscope by constriction of the blood-column while the outer contour of the vessel retains its normal calibre. Such changes are generally best seen close to the optic disc. They are sometimes uniform for considerable distances, although more frequently the reverse is the case. The arterial thickenings are best appreciated with a plane mirror under reduced illumination, or by looking at the vessels in the margin of the cone of light. The visibility of the thickening of the intima depends mainly upon the development of the change, being grey and transparent in the progressive stages, but more opaque during regression. These vascular changes are observed in cases of "embolism," either during the attack or after its termination. They are, however, found much more frequently in "embolism" of the branches of the central artery, because the affected part lies in the clearer retina and the contrast with the normal lumen is more striking. The proliferation of the intima narrows the lumen of the artery more and more. The blood is forced through the constriction as long as its pressure exceeds the elastic contractile power of the arterial wall, so that the functions of the retina are not interfered with. A sudden arrest, however, takes place, either if the blood-pressure sinks from any cause, or if the tone of the muscularis is increased. In either event the walls will be

brought together, the blood stream interrupted, and the functions of the retina arrested. After a longer or shorter time the blood-pressure will increase or the contraction of the vascular walls relax, and circulation will be resumed in the retinal vessels. The damage to the retinal elements—that is, the injury to sight—will be proportional to the duration of the stoppage of the circulation. Prodromal symptoms are explained as the direct outcome of fluctuation in the balance between the tension of the arterial wall and the blood-pressure. On this view, also, bilateral attacks can be comprehended. In brief, Reimar believes that endarteritis proliferans must be looked upon as the chief factor in the production of the clinical picture of so-called embolism of the central artery of the retina, more especially as all the symptoms can be satisfactorily accounted for in that way.

(2) The theory that the obstruction is due to *thrombosis of the central artery* has found adherents in England and America. The author distinguishes between a benign thrombus following a spontaneous degenerative change in the wall, and a toxic thrombus appearing in the vessels of inflamed tissues. The first may be due either to changes leading to a loss of the lining endothelium, or else to a retardation of the blood-stream. The fact that in "embolism" the circulation is nearly always restored soon after the attack tells against the thrombosis theory, since as Reimar points out, a thrombus might be expected to extend, to become firmer, and to cause permanent total blindness accompanied by retinal stasis. In order to explain re-establishment of the circulation soon after the attack, one must assume that the thrombus has become canalized or that a collateral circulation has been formed. The former process needs some time for its development, so that total blindness would result despite it. The possibility of the formation of a lateral circulation has been denied by competent investigators. It could be formed only by anastomosis of the branches of the central artery with the vessels of the vascular circle of Zinn, but Leber states that the inosculating vessels are scarcely larger than capillaries, and, clearly, the collateral circulation could be developed but slowly through such tiny vessels. The thrombosis theory, according to Reimar, is insufficient to explain binocular attacks of different severity, the prodromal obscurations of sight, and the attacks that pass away without serious damage.

(3) When we approach the *embolic theory* we are faced by somewhat similar difficulties. How on this view can we possibly explain the re-establishment of the circulation soon after the attack? Total interruption of the blood-stream

must follow the impaction of an embolus, and to meet the above-mentioned difficulty the theory of an incomplete embolus has been invoked. Reimar, who believes that such an embolus, which can be conceived of only as calcareous, must be very rare. He casts considerable doubt upon those cases where an embolon was alleged to be visible with the ophthalmoscope. The appearance, he thinks, might be accounted for in other ways—as, for example, as indicative of arteriosclerosis, as a small extravasation, or as a connective tissue membrane. It is difficult to understand how the fundus regains its normal appearance after a short time. Reimar also criticises adversely those cases in which an embolus is said to have been found upon pathological examination of the affected eye. Several of the observations were made before microscopical *technique* has attained the present standard. The differential diagnosis between an organised embolus, thrombus, and primary endarteritis proliferans cannot perhaps always be made with certainty, particularly in the later stages. At all events, the pathological appearances in several of the cases pointed decidedly in the direction of endarteritis proliferans. Indeed, critically examined, there is no single case recorded which forms a convincing argument in favour of embolism or thrombus as the cause of so-called "embolism of the central artery of the retina." Thrombosis and embolism may occur in the central artery or in one of its branches. But if the circulatory conditions in the eye are correctly understood, either lesion must cause a total and long-continued interruption of the circulation, visible signs of agglutination in the vessels, and complete blindness from the first. In embolism of a branch vessel the embolus should be plainly seen.

After relating the clinical details of three cases of his own, Reimar concludes an able paper (which occupies forty pages of the *Archives*) as follows :—(1) There can be said to be complete interruption of the circulation only when the blood-column is broken to pieces on the peripheral side of the place of obstruction. (2) While the theory of embolism or thrombosis does not explain many of the symptoms of the clinical picture in question, the theory of endarteritis proliferans of the central artery or of the retinal artery affected satisfies all the demands which may be made upon it, and this disease is present at all events whenever thickenings of the walls of the arteries are visible with the ophthalmoscope. With true embolism or thrombosis, both of which may occur in the retinal arteries, complete blindness and a breaking up into granules of the blood-columns of the affected retinal vessels must be expected.

Henderson, F. L.—A case of Tuberculosis of the Conjunctiva; recovery without local interference. *Annals of Ophthalmology*, July, 1903.

Henderson, who believes that tuberculosis of the conjunctiva is much less common in America than in Europe, reports the following case: a girl, 20 years of age, presented a marked swelling of the lower lid, the conjunctival surface of which was riddled with follicles. The corresponding preauricular and cervical glands were enlarged, and the tonsil was three times its normal size. The patient had lost flesh, and suffered from a cough. The affection of the eyelid had existed for about nine weeks. A piece was removed from the thickened lid, and found to present the typical picture of tuberculous granulation tissue, including a small number of tubercle bacilli. The sputum, also examined bacterioscopically, included similar organisms. This investigation was repeated on two other occasions, and the diagnosis was confirmed by the inoculation of a guinea-pig. The case was treated, without surgical interference or local medication, by constitutional measures. As a consequence, the bacilli disappeared from the sputum, the patient gained in weight, and the tuberculous eyelid became practically normal. This relative cure occupied some eleven months.

White, W. Hale.—A case of Diabetic Intraocular Lipæmia, in which the blood was examined during life. *Lancet*, October 10, 1903.

White's patient, a man aged 26 years, suffering from diabetes mellitus, was found to present the signs of intraocular lipæmia, namely, a pale colour of the blood contained in the retinal vessels, and an anæmic-looking retina. As the patient's general health improved, the ophthalmoscopic appearances became less marked, and, finally, disappeared altogether after two months' treatment. Careful analysis showed that the blood (obtained by venesection) did not contain true fat, but what was apparently an ester of cholesterine with one of the higher fatty acids or a mixture of them. The communication is accompanied by a chromolithograph of the ophthalmoscopic appearances.

Gleason, J. E.—Idiopathic myositis involving the extraocular muscles. *Ophthalmic Record*, October, 1903.

Gleason reports a curious case of myositis involving the extra-ocular muscles of a man, aged 59 years, who had suffered from occasional attacks of rheumatism. The patient stated that he had never had gonorrhœa or syphilis. He had been subject for some months to attacks of redness and swelling of the right eye and eyelids. When examined by Gleason, there was exophthalmos and chemosis of the right eye; the cornea was cloudy and the iris inflamed; movements of the eye were painful and restricted; and palpation revealed the existence of a hard, immovable, circumscribed mass in the upper part of the orbit. V.=15/60. An exploratory incision brought to light a greatly enlarged superior rectus muscle, *i.e.*, the mass felt on palpation. A few days later, as panophthalmitis was thought to be imminent, the affected eye was enucleated. During the operation the superior rectus was found to be enormously enlarged, immovable, hard and board-like to the touch, and could be traced from origin to insertion. Microscopically, a piece of the affected rectus muscle showed interstitial myositis with its resulting parenchymatous changes. The epimysium was œdematous, infiltrated with small cells, and increased in thickness. The perimysium contained large areas of leucocytes visible to the naked eye. Some of these areas had invaded the endomysium between the muscle cells, pressing upon and destroying the latter. The striæ of the muscular fibres were lost, while the fibres themselves were atrophic and widely separated by œdema; many, indeed, had undergone simple necrosis. No bacteria or parasites were found. The eye itself was not examined microscopically.

Two months after the operation, the patient returned with his other eye affected. There was chemosis over the insertion of the inferior rectus muscle; the lids could be closed with difficulty; slight exophthalmos. Despite treatment by sodium salicylate, potassium iodide, etc., the chemosis extended and involved the entire ocular conjunctiva, exophthalmos got more marked, and keratitis and iritis developed. Somewhat later, panophthalmitis necessitated removal of the patient's only remaining eye. "All the extra-ocular muscles were increased in size, and could be distinctly felt as hard, cord-like bands, similar to the superior rectus of the right eye." Pathologically, the muscular lesions resembled those described in the case of the other eye. Gleason's communication is illustrated by a photograph of the patient and of the microscopical appearance of the affected muscle.

Hála, Adolf.—On a rare symptom of ocular syphilis in the newly-born. (Ein seltenes Symptom der Augensyphilis bei Neugeborenen.) *Zeitschr. f. Augenheilk.*, August, 1903.

Hála describes a rare case of acute fibrino-plastic iritis associated with parenchymatous keratitis of both eyes, due to congenital syphilis, in a newly-born baby. The first child n dead; the second died fourteen days after birth from "weakness" (*Schwäche*); and the third child, the present patient, was born at term. Syphilis was denied by the mother. A fortnight after birth the patient developed an eruption of bullæ on the palms and soles and afterwards red patches about the nose and forehead, and the eyes became affected somewhat later, when the other manifestations had disappeared. When ten weeks of age, the baby fell under Hála's care. The child was then normally developed and well-nourished. Paronychia was present on the toes. The right eye was congested, and its tension a little raised. The cornea showed diffuse, interstitial opacities, and its surface was stippled. The iris was changed in colour, and covered, especially in its outer part, with a greyish-white exudation. The pupil, which was occluded, was somewhat dilated and irregular. In the iris three stout vessels could be seen radiating from the periphery towards the pupil. The left eye was also inflamed, but to a less extent than the right. There appeared to be no pain. Treatment by inunctions and calomel internally, and atropine and warm applications to the eyes, led to a relatively rapid improvement.

Baas, J. Hermann.—A conjunctival inflammation in consequence of inoculation with the secretion of infectious vaginal discharge from a cow. (Bindehautentzündung infolge von Ansteckung durch Sekret des "infektiösen Scheidenkatarrhs" bei einer Kuh.) *Zeitschr. f. Augen.*, Juli, 1903.

Baas treated a man for a severe inflammation of the conjunctiva of one eye, marked by chemosis, red and swollen palpebral conjunctiva, and abundant discharge, containing yellowish threads. The patient had helped to deliver a calf, and it was thought that, being hot at the time, he might have wiped his face and eye with his hand soiled by discharge from the maternal passages. It is to be noted that there had been an epidemic of so-called infectious vaginal catarrh among cows in the district. The conjunctival inflammation healed in six days under treatment by 5 per cent. protargol, atropine, and cold applications.

Werner, L.—Two cases of Primary Intra-Dural Tumour of the Optic Nerve, in one of which the Tumour was removed by Krönlein's operation, with preservation of the eye. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

In this elaborate communication Werner relates two cases of primary tumour of the optic nerve, discusses the indications for and describes the performance of Krönlein's operation, and analyses all the instances of primary tumour of the optic nerve that he has found in literature.

Below we give the salient facts of Werner's own two cases. For details as to the other points mentioned above, the reader must be referred to the original communication.

1.—A woman, aged 45 years, had noticed a slight swelling above the inner canthus of the left eye for about twelve months. Upon examination, there was marked proptosis of the corresponding eye, which was deviated mainly in the axis of the orbit, *i.e.*, forwards and somewhat outwards. The movements of the eyeball were tolerably free. No tumour could be felt in the orbit. Optic disc atrophic ; vision=perception of light. Under an anæsthetic, a solid tumour could be made out behind the eyeball. The orbit having been exposed by Krönlein's method, a large tumour behind the eyeball became visible. The growth having been separated from the surrounding parts with the finger and the handle of a scalpel, the small portion of the nerve uniting it to the eyeball was cut close to the latter. The incisions were found to have healed when the dressings were removed five days after the operation. From an æsthetic point of view, the operation was almost an unqualified success. The tumour was thought by Werner to be an endothelioma, although the pathologist, who examined the growth, preferred to look upon it as an alveolar sarcoma.

2.—A child, 5 years of age, presented proptosis of one eye, optic papillitis, and an orbital tumour. The eye was enucleated, along with the attached anterior portion of the tumour. In the course of a week, however, induration and swelling of the upper lid and cheek came on. An anæsthetic was therefore administered, and a thorough examination made of the parts. The inner surface of the upper lid was found to be infiltrated with a greyish substance, which also occupied a large part of the orbit. The upper lid was accordingly divided vertically and scraped, while the orbit was cleared out and treated with chloride of zinc. Somewhat later, the child was withdrawn from observation. The tumour appeared to be a fibro-myxoma or a myxo-sarcoma.

Werner concludes his communication with the following aphorisms concerning primary tumours of the optic nerve: (1) A perfect cure can be effected in some cases ; (2) local are less frequent than intra-cranial recurrences, but may occur after a very long interval of years ; (3) meningitis after operation will occur in a very small percentage of cases ; and (4) intra-cranial complications constitute the chief danger, and are found in a much larger number of cases than are local recurrences; and since the existence of these growths within the cranium cannot be made out, except in a late stage, and seeing that they may occur or develop at any time, it is impossible to say, in any given case, when the patient is out of danger.

A good bibliography is appended to Werner's paper, which occupies thirty-one pages of the *Transactions*.

Genth, Adolph W.—A case of Tetanus, following an injury to the Eye. (Ueber einen Tetanusfall nach Augenverletzung.) *Zeitschr. f. Augenheilk.*, IX (1903), p. 55.

Genth refers to the cases of tetanus following injuries to or operations upon the eye published by Rose, Fromaget, Dahlhaus, Pollock, Kirchner, Chisholm, Schnitzler, and Roberts, and then relates a personal observation, the main features of which may be summarised as under: a man, aged 23 years, sustained a severe punctured wound involving the left eye and the neighbouring parts. The opening of the wound, which had been sutured, was found to lie 1 cm. below the supercilium. Upon opening the lids, there was conjunctival congestion, chemosis of the lower part of the ocular conjunctiva, perforation of the cornea, prolapse of the iris, and traumatic cataract. V. = $\frac{1}{8}$. Projection good. The case did badly, inasmuch as panophthalmitis supervened. On the sixth day after the injury, a slight difficulty in swallowing was noticed. Eight days later, pus was evacuated from the lower lid, and on the same evening the patient began to suffer from stiffness of the muscles of the neck, and some other signs suggestive of commencing tetanus. The symptoms increased during the night, and a definite diagnosis was then made of *tetanus facialis*. On the following day the patient was scarcely able to speak or to drink, there was stiffness of the face and neck, and singultus and opisthotonos were present. Next day, there was pain in the head and neck, convulsions, opisthotonos, and cyanosis. On the following day, there was paralysis of the left V nerve, Cheyne-Stokes' respiration, inability to drink, and a pulse-rate that ranged from 120 to 140 per minute. The patient died the same night. Five minutes after death, the temperature in the rectum stood at 40° C. At the autopsy, the broken-off blade of a knife, 5 cm. long and 1.5 cm. in width, was found embedded in the upper jaw, and there was hæmorrhagic empyema of the antrum. The tetanus bacillus was apparently not looked for. The treatment included several intravenous injections of tetanus antitoxin and saline solutions, morphia, and chloral.

III.—MISCELLANEOUS.

Moyzes.—The Reflexes in Diabetes. *Thèse de Bordeaux*, 1903.

Since Bouchard's investigations the fact has become more or less widely known that the tendon-reflexes are not infrequently diminished or lost in diabetes mellitus, a fact that is not without a bearing upon ophthalmic medicine. Moyzes, in the present communication, found that of 210 patients whose tendon-reflexes were diminished or lost, no fewer than 98 were suffering from diabetes. The abdominal, the cremasteric, the pharyngeal, and the plantar reflexes were also usually absent. The pupils, on the contrary, seldom manifested any alteration as regards their action to light and to convergence. H. DE V.

Harman, N. Bishop.—Knee-Jerk Phenomenon in Interstitial Keratitis (Congenital Syphilis), with a Scheme for Standardising the variations of the Phenomenon. *Ophthalmic Review*, September, 1903.

This is a paper that was read at the Meeting of the British Medical Association, held at Swansea. It having been stated that the knee-jerk was much diminished or was absent from children suffering from interstitial keratitis as the result of congenital syphilis, Harman proceeded to investigate these cases from this point of view. The result of his researches are here given. These quite disprove the statement, for he shows, comparing 100 children with this disease with those that are healthy, there is practically no difference between them.

Abrams, Albert.—The knee-jerk. *American Medicine*, November 28, 1903.

As the method of examining the knee-jerk adopted by Abrams may be useful to ophthalmic surgeons in the press of a crowded out-patients' department, it may be briefly described. The patient stands supporting the weight of his body as much as possible on one foot, while the foot of the limb to be tested rests lightly on the floor with the heel slightly elevated. The hand of the physician grasps the knee in the popliteal space, so that if the reflex is present and escapes inspection, it can be appreciated by palpation. In other respects percussion of the tendon is made after the usual manner.

Stirling, Alex. W.—Some ophthalmic cases I have seen. *Ophthalmic Record*, June, 1903.

Neuburger, Sigmund.—Myopia caused by Diabetes Mellitus. (Kurzsichtigkeit durch Diabetes mellitus.) *Münch. Medizin. Wochenschr.*, März 24, 1903.

Hirschberg, in 1890, was the first to draw attention to cases of myopia caused by diabetes, and since then several cases of the kind have been published. But the association, Neuburger thinks, is not so rare as the limited number of cases reported might lead one to believe, and it is important that the condition should be borne in mind, inasmuch as its recognition may lead to the early diagnosis of diabetes.

Neuburger gives particulars of the two following cases:

1.—A woman, aged 50 years, came under observation in February, 1901, on account of dacryocystitis. The urine was not examined. Refraction emmetropic; Snellen's smallest type could be read with + 2.0 D.sph. In July, 1901—that is, five months later—the patient complained that distant objects had been indistinct for ten days, and that she could read and work without glasses. This statement led Neuburger to suspect diabetes. Upon examination, the woman was found to have lost flesh, and to look languid; she complained of great thirst and of increased urination. The urine contained 3.5 % of sugar. Media and fundi normal. R.V. — 1.5 = 5/6. L.V. — 2.0 = 5/6. Strict diet led to no reduction in the amount of sugar, which rose to 5 % and later to 7 %. The general condition became worse, but, curiously enough, the myopia passed away in the course of about three weeks.

2.—A woman, aged 48 years, had ordinary reading glasses prescribed on July 11, 1899 (+ 0.75 D. sph. and presbyopia + 1.5 D. sph.) Two years later she presented herself stating that for three months she had been able to read better without her glasses, but that, on the contrary, she saw badly at a distance. Neuburger, struck with her debilitated appearance, examined the urine, and found abundant sugar in that fluid. She had lost flesh and had polyuria. R.V. — 1.0 D. = 5/9. L.V. — 2.5 D. = 5/9. Media and fundi normal. General health improved under suitable diet, but the sight failed later, due to diabetic clouding of the crystalline lens.

The advent of short-sight in advanced age is in itself a suspicious sign. It is most frequently due to beginning cataract, without diabetes existing as a factor. The cause of diabetic myopia is generally assumed to lie in a change in the crystalline lens. Schmidt-Rimpler questions whether diabetic myopia can exist for long without cataract making its appearance, a statement denied by Neuburger. The cases must be explained by an increase in the refractive index of the lens, as Heine has shown by the direct observation of such a lens that had been removed from the eye. Other causes of the myopia—as lengthening of the axis of the eye or increase in the refractive index of the aqueous humour—are improbable. Indeed, according to Hess, the aqueous humour, to produce 1 D. of myopia, must contain 20 % of sugar. To assume a spasm of accommodation as a cause of the myopia, is opposed to the known fact that weakness, and not spasm, of the ciliary muscle is observed in diabetes.

S. S.

Krauss, Frederick.—A simple method of enhancing the effect of tenotomy for correction of strabismus. *American Medicine*, November 21, 1903.

In order to increase the effect of tenotomy, Krauss places the patient in bed for twenty-four hours, the eye that has been operated upon being occluded by a bandage. The bed is placed in a corner of the room in such a position that the natural tendency of the patient is to turn the eye in the direction desired by the operator. In the case of intelligent persons the same end is attained by getting them to keep the eyes fixed upon some object of interest.

Hartridge, Gustavus.—The treatment of concomitant convergent strabismus. *Brit. Med. Journal*, September 26, 1903.

Worth, Claud.—Convergent Squint. *Brit. Med. Journal*, September 26, 1903.

Leprince, A.—The dosage of drugs in ocular therapeutics. (Du dosage médicamenteux en thérapeutique oculaire : collyres et pommades.) *La Clinique Ophtalmologique*, 10th March, 1903.

Leprince deprecates the careless way in which indefinite quantities of active drugs are administered in eye practice, and proposes standardization of solutions and ointments, and the employment of definite measured quantities of these.

W. ERNEST THOMSON.

Roth, A.—Silver-irritation. (Argentum-Aetzung.) *Ophthalm. Klin.*, 1903, 22.

A newly-born child had dropped into both eyes, instead of Credé's silver solution, a 10 % solution of silver nitrate, with the consequence that a severe purulent conjunctival inflammation, with œdematous swelling of the lids, just as in blennorrhœa neonatorum, came on, and was followed by dense corneal opacities. The treatment, apart from simple cleansing of the eyes, was by instillations of sterile olive oil. Complete recovery after about fourteen days. Roth fails to note (*a*) how many drops of the 10 % solution were applied, and (*b*) whether immediate neutralization with sodium chloride was adopted when the mistake was found out.

Woch. f. Ther. u. Hygiene des Auges, Dez. 24, 1903.

Wray, Charles.—" Combinations " test type. *Lancet*, July 25, 1903.

This convenient cabinet contains the ordinary Snellen letters arranged as cubes, so that they may be readily changed about. It presents considerable advantages in testing the sight of school children, inasmuch as the letters cannot be memorised. For example, the examiner can show four letters in 6/60 ; 16 combinations in 6/36 ; 64 in 6/24 ; 256 in 6/18 ; 1,024 in 6/12 ; 2,048 in 6/9, and so forth. The " combinations " type is intended to be used with a mirror at a distance of 3 mètres. It is made by Messrs. Down Bros., Borough, London.

Velez, D., and Graue, E.—The treatment of sympathetic ophthalmitis by injections under the conjunctiva of the stump of the enucleated eye. (Tratamiento de la oftalmia simpatica por inyecciones bajo la conjunctiva del munon del ojo enucleado.) *Socied. Oftalm. Mexicana*, March, 1903.

Velez and Graue believe that every eye likely to cause sympathetic mischief should be enucleated. In order to prevent or to cure sympathetic ophthalmitis, moreover, the stump of the enucleated eye should be deeply injected with the following solution : distilled water, 30 ; acoine, 0.30 ; cyanide of mercury, 0.03. The authors report two cases in support of their plan.

Revue générale d'ophtalmologie, octobre, 1903.

Placzek.—Upon alterations in the pupils after death. (Ueber Pupillen-Veränderungen nach dem Tode.) *Virchow's Arch.*, Bd. 173, S. 172.

Placzek's observations show that corresponding with *post-mortem* rigidity of the skeletal muscles, there was also rigidity in the smooth muscular fibres of the iris, which led to striking changes in the form of the pupil. As the results of experiments first conducted upon animals, especially cats, that had died from various causes, it was shown that the pupil in the first two hours after death began to get smaller. The height of the narrowing was reached after six to twenty-four hours, when the pupil measured one-half to one-third of its original width. The pupil, after that, became larger, and the process ended in twenty-four to forty-eight hours. The *post-mortem* pupillary rigidity is not simultaneous as regards the two eyes. The pupil, moreover, may become irregular. The *post-mortem* rigidity of the pupil may also be observed in human beings. It commences ten minutes after death. This early beginning shows that the rigidity of the smooth muscular fibres of the iris is independent of the rigidity of the striped muscles, and that it follows its own course. As regards the explanation of the phenomena, the author assumes that after death the tone of the dilator diminishes, so that the sphincter has the upper hand. If the tone of the sphincter disappears, the pupil dilates. Mydriatics and myotics, with the exception of the supra-renal extract, have no influence upon the *post-mortem* phenomena. Supra-renal extract, however, acts as a mydriatic, and delays or retards the intensity of the pupillary rigidity. Section or irritation of the sympathetic is without effect upon the pupilliary phenomena.

Scott, Kenneth.—The accuracy requisite in vision-testing. *Archives of Ophthalmology*, March, 1903.

In the course of a very readable communication Scott advocates several reforms more or less closely connected with the testing of sight. For example, the necessity of accurately centering the trial lenses in the course of skiascopy, the routine employment of cycloplegics, the correct estimation of the position of cylinders, the universal adoption and the standard illumination of Landolt's optotypes, and, lastly, the due appreciation of the colour-sense.

Grossmann, Karl.—The mechanism of accommodation in man. *Brit. Med. Journal*, September 26, 1903, and *Ophthalmic Rcview*, January, 1904.

Wernicke, Otto.—Congenital Word-Blindness. (Angeborene Wortblindheit.) *Centralbl. f. prak. Augenheilk.*, September, 1903.

Wernicke, after mentioning the cases of congenital word-blindness reported by Morgan, Hinshelwood, and Nettleship respectively, states that he saw in close succession three instances of the condition. In the present communication he gives details of two of these cases. 1.—A girl, aged 19 years, was said to be hysterical, but was otherwise in good health. Despite every effort, she had never learned to read properly—she read slowly and letter by letter. She could learn nothing from a book, and was unable to peruse a novel with interest. Figures offered no difficulty. Intelligence good. Sight=5/4.

Accommodation corresponded to age. Manifest hyperl metropia, 1.50 D. Fundi normal. 2.—A boy, aged 10 years, whose dissipated father died insane. One of the patient's brothers was rather weak-minded, and another could play several games of chess simultaneously and was also able to play without seeing the chess-board. Owing to illness, his school attendance had been somewhat irregular. He was a lively, intelligent, and healthy lad, endowed with a good memory and sharp powers of observation. His reading, however, was so defective as to keep him in the lowest class at school. He could recognise all the letters slowly, but fluent reading was impossible. He liked to be read to, although he took no pleasure in reading to himself. Figures were read quickly and correctly up to the sixth place. Written letters were recognised better than printed letters. Vision=5/4. Manifest hypermetropia, 0.50D. Fundus normal. S. S.

Berger, E.—Epiphora as an initial symptom of Basedow's disease. *Archives of Ophthalmology*, September, 1903.

Berger, of Paris, has a paper upon idiopathic epiphora as an early sign of exophthalmic goitre. He records four cases where this sequence of events was observed. He regards the epiphora as due, not to the widened palpebral fissure or to the infrequent closure of the eyelids often found in the disease, but to a secretory neurosis of the lacrymal glands. The author remarks that "cases of Basedow's disease with epiphora as an initial symptom are rare, yet in many cases the early appearance of epiphora, followed later by the other symptoms, may have been overlooked. From a diagnostic standpoint the epiphora, so long as other symptoms do not exist, offers nothing characteristic. But when to an epiphora is added tachycardia, marked pulsation of the carotids, and the like, the ophthalmologist may render considerable service by early recognising the existence of the general disease, as the results of treatment are better the earlier the diagnosis is made."

REVIEWS.

"Entre Aveugles": advice to those who have just lost their sight. By Dr. EMILE JAVAL. Paris, 1903: MASSON AND Co.

In writing *Entre Aveugles* Dr. Emile Javal has risen superior to his misfortune, and has produced one of the most pathetic human documents that it has ever been our fortune to read. The author, when he was about sixty-two years of age, lost his sight more or less suddenly from glaucoma. In this strait he was surprised to find no book giving hints such as he stood in need of. The literature at his disposal dealt either with the education of the youthful, or else with the organisation of relief for the indigent, blind. There was practically nothing helpful to those who whilst in no sense indigent, yet had lost their sight after reaching man's estate. This dearth induced Javal to produce a book that can only be described as a *vade-mecum* indispensable for every blind person of mature years. It treats of almost every possible aspect of life and is full of hints that cannot fail to render existence as happy and independent as possible under the circumstances. Domestic and professional occupations, hygiene, health, food, watches and clocks, walking, tandem tricycles, travelling, reading, writing, correspondence, music, amusements, tobacco, marriage, and the sixth sense (the so-called "sense of obstacles") all have chapters to themselves. An appendix deals with the various means of facilitating reading, and gives a list of addresses useful to those who require the various things used by the blind, such as special watches and clocks, wax-tablets, styles, paper, cards, tricycles, games, and so forth.

Javal demolishes the popular view that the blind do not care to smoke, inasmuch as, not seeing the fumes, they cannot taste the flavour of the tobacco. Very dry cigars are to be preferred, because they keep alight better than the others and hence need little attention. In order to light his own cigar, Javal employs spills instead of matches, since it is not easy with the latter to place the end of the cigar in contact with the flame. In his own room he disposes of ashes by numerous trays placed in known and convenient positions, while out-of-doors he employs a special form of spittoon, which he carries in his pocket. A glance at the chapter devoted to the subject of meals will give one a fair idea of the book in general. After pointing out that, with rare exceptions, those born blind eat in a way distinctly distasteful to other people, Javal insists that under no circumstances should the fingers be used. A serviette should be so arranged as to avoid splashes of food upon the clothes, and a simple plan is described for preventing the napkin from slipping from its proper place. To take soup, it can be readily imagined, is no easy thing for a blind man, and Javal advises that the spoon be inclined before conveying the liquid to the mouth, so that none of the soup shall be spilled. By placing the index finger of the left hand in the glass, one who has been deprived of sight can readily pour out his own wine. Plates have been divided into two sections with the object of keeping meat and vegetables apart. An aluminium fork allows one to estimate with fair accuracy the weight, and consequently the size, of a morsel of food before conveying the latter to the mouth. To dine in company is one of the greatest pleasures permitted to a blind man. Indeed, Ludwig von Batzko is reported to have said that two pleasures only are open to the blind, namely, that of meeting friends at the dinner table, and that of contemplating the consolations reserved for him in a better world. To Javal the first appears by far the more assured, and he refers those who prefer the second to the pages of Batzko's book. With this somewhat characteristic French comment we must leave Javal's book, but we cannot do so without commending it to the serious attention of all who are interested in the welfare of the blind. And who is not?

It is to be hoped that ere long we may be in the possession of an English translation of *Entre Aveugles.*

Practical Details of Cataract Extraction. By H. HERBERT, F.R.C.S., Major I.M.S., Professor of Ophthalmic Medicine and Surgery, Grant Medical College; in charge of the Sir Cowasgee Jehangir Ophthalmic Hospital, Bombay; Fellow, and late Syndic of the Bombay University. London: Baillière, Tindall, & Cox, 1903. Second Edition. Crown 8vo. Price 4s. net.

A second edition of Major Herbert's book on cataract has recently been issued by Messrs. Baillière, Tindall, and Cox. The first edition was exhausted in the brief space of six months, a very practical tribute to the sterling nature of the work. In his second edition, the author has taken the opportunity to correct a few small blunders, to amplify some descriptions and explanations, to add a few new observations, and, finally, to bring his statistics up to the end of March, 1903. *The Practical Details of Cataract Extraction* was reviewed very favourably in our columns in August, 1903. We need now merely reiterate our opinion that Herbert's straightforward record of original work should be on the study table of every ophthalmic surgeon. It contains a veritable mine of practical information, which nobody can afford to overlook.

NOTES AND ECHOES.

Editorial Staff of Ophthalmoscope.

AMERICA is fast assuming a place in the front rank of scientific attainment. It is with much pleasure, therefore, we announce that our abstracts of American ophthalmological literature will be undertaken by Dr. Frank W. Marlow, of Syracuse, New York, a well-known and highly talented ophthalmic surgeon, whose work is stamped with originality as well as the less rare gift of information. Coming back to the Old World, we are pleased to say that our staff has been strengthened by the addition of Drs. Alvarez and Alvarado, of Valladolid, who will henceforth keep our readers informed of ophthalmological progress in Spain. Lastly, Professor C. Manché, of Malta, has joined the staff of THE OPHTHALMOSCOPE.

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Ophthalmological Journals.

ONE of the most noteworthy signs of the times in the medical world is the marvellous amount of energy thrown into every kind and species of special research. One could not imagine a better index to the extent of that enthusiasm than that afforded by the journals of the various branches of medical specialism. Judged in that way the devotees of ophthalmic science and art may congratulate themselves on the prosperity of their cult, as proved by a round twenty or more of admirable periodicals published in various languages. Important editorial changes have been recently announced in two of these publications. The first, so we gather from the last number of the *Zeitschrift für Augenheilkunde*, is that owing to the illness of Professor Chodin, the Russian ophthalmological journal, the *Westnik Oftalmologic*, will be for the future issued from Moscow, and not, as previously, from Kiev. The new editorship will be multiple and distinguished, being composed of Professors Belljarminow, Golowin, Ewetzky, and Krjukow. The second change of which we speak is the addition of Professor Truc, of Montpellier, to the editorial staff of that useful publication, the *Revue Générale d'Ophtalmologie*. The other editors are Dr. H. Dor (one of the founders of the journal), and Dr. Étienne Rollet, both of Lyons. The headquarters of the *Revue* were removed from Paris to Lyons on the death of Dr. E. Meyer, its other founder.

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Medical Ophthalmoscopy.

READERS of THE OPHTHALMOSCOPE will be interested to learn that a fresh edition of Sir William Gowers' *Manual and Atlas of Medical Ophthalmoscopy* is in the press. The new book will be somewhat shortened, but the descriptions will doubtless remain as lucid and complete as heretofore. The latest edition, the third, of this valuable work was published so long ago as 1890. In the fourteen years that have intervened much has been done to strengthen the bonds between ophthalmology and general medicine and surgery. It may be confidently anticipated that such work will receive full recognition by Sir

William Gowers in his forthcoming edition. So far as our own country is concerned his book occupies a position that is unique.

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The Optician Question.

We congratulate Mr. W. A. Dixey, of New Bond Street, a member of the well-known firm of London opticians, on having the courage of his opinions on the vexed question of sight testing by a member of his craft. He has issued a circular letter to the leading journals of the optical trade. As an old-standing member of the Company he discusses the proposal to add the subject of sight testing to the examinations for opticians held by the Spectacle Makers' Company. He smites the whole army of pseudo-oculists hip and thigh in a letter which is admirably concise, moderate, and convincing. We have not space here to discuss the communication at length, but must refer readers interested in the matter to the original document. Take the following passage: "Three processes are involved in fitting a person with spectacles: (1) Testing the sight; (2) Measuring the face; (3) Selling the spectacles. There is also the process of making the spectacles, but I leave that out for the present. As a matter of convenience, I contend that the first belongs to the consulting room, and the third to the shop. The second can in this respect be equally well conducted in either." That is a crisp enough statement, and Mr. Dixey's style is equally to the point when he comes to deal with the actual manufacture. "On the wholesale and manufacturing side of the trade," he says, "there has been a lack of technical knowledge and a want of enterprise, which have had the natural result that we are inundated with a quantity of foreign goods. which could just as well—nay, better—have been made in England." Bravo! Mr. Dixey, the wholesome English breed of opticians yet lives and breathes among us. Heaven only knows why on earth a self-respecting mechanic and tradesman should want a number of letters after his name and a shop-window decoration of diploma, anatomical models, and optical apparatus, instead of the articles it is his trade to make and sell. Perhaps were Thackeray alive he might solve the problem in an additional chapter to his "BOOK OF SNOBS."

* * * *

V. Graefe Prize.

THE award of the Von Graefe prize for 1899-1901 has been recently announced. The judges, Drs. v. Hippel, v. Michel, Hess, Axenfeld, and Bernheimer, have declared in favour of Dr. P. Römer, of Wurtzburg, for his communication "The experimental investigation upon Abrin (Jequiritol) immunity as the foundations of a rational treatment by Jequirity." We hasten to extend our hearty congratulations to Dr. Römer for his success in winning the blue ribbon of Teutonic ophthalmology.

* * * *

Reported Death of Dr. A. Darier.

We are glad to say that Dr. Darier, our distinguished French correspondent, is at the present moment in the best of health, and engaged with the utmost vigour upon his therapeutic work. We hasten to make this announcement on account of a curious error into which the *Lancet* of December 26th, 1903, recently fell. In the course of an admirable review of the "Annus Medicus, 1903," discussing the action of adrenalin upon the eye, the following passage occurs:—"Thus Dr. A. Yvert, Dr. Wessely, Dr. Konigstein, Dr. Marquess, Dr. A. Darier, whose death has so recently occurred, and many others, speak in high terms of its value when applied to the congested conjunctiva." Errors of this kind must occur in the best-regulated families, and we note the above only with a view of assuaging the grief of Dr. Darier's numerous English acquaintances.

* * * *

Obituary.

Death has indeed been busy in our ranks lately. The latest victim of the grim messenger has been Dr. Hans Viehweger, of Wimpole Street, London, who died recently at Breslau, at the early age of 35 years. On the Continent, we have to record the loss of Dr. Theodor von Schröder, Director of the St. Petersburg Eye Hospital. Arterio-sclerosis and infarction led to his untimely decease at the age of 51 years. *R.I.P.*

* * * *

Middlemore Lecture, 1903.

The Richard Middlemore Post-Graduate Lecture was duly delivered by Mr. Jameson Evans on December 18th, 1903, at the Birmingham and Midland Eye Hospital. The lecturer took as his subject the interesting and practical theme of bacterial diseases of the conjunctiva. We shall publish the lecture *in extenso* in an early number.

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ORIGINAL COMMUNICATIONS.

THE SCIENTIFIC LAWS GOVERNING THE THERAPEUTIC USES OF SILVER.

By
A. C. Barnes, M.D., of Philadelphia,
FORMERLY ASSISTANT IN PHARMACOLOGY, UNIVERSITY OF HEIDELBERG, GERMANY.

For more than a century silver has been recognised as a valuable agent in the local treatment of inflammatory diseases of the eye, ear, throat, and genito-urinary organs. Broadly speaking, the value of a silver compound depends principally upon the silver contained therein, the action of which is antiseptic. Therefore, all silver salts possess, but in greatly varying degrees, antiseptic power, which power, however, is modified by the other chemical properties of the salt and particularly by its affinites for the human tissues. Silver nitrate—the oldest form of silver employed clinically—is now but seldom used for its antiseptic properties alone, because, by reason of its chemical nature, the antiseptic power of the metal has but little opportunity to assert itself; it has therefore been replaced in this application by the organic forms of silver which differ chemically and in their behaviour towards the constituents of the body tissues. Silver nitrate is still employed clinically for its astringent effect, but the very attributes which endow the salt with value as an astringent are so potent for harm that even in this application its utility is restricted. The affinity of silver for proteids (albumen) is very marked. A solution of inorganic silver, the type represented by the nitrate, when brought in contact with albuminoid materials, forms an instantaneous combination, which is, chemically, silver albuminate. The instance of this chemical action most familiar to physicians is the white coating which immediately ensues upon the application of silver nitrate solution to a mucous membrane. This silver albuminate, so formed, is but one stage of a chemical reaction, known, even to the beginner in chemistry, as double decomposition; the silver salt gives up the acid with which it is combined as a base to the albuminoid material because it has a greater affinity for the latter; hence the acid radical of the silver salt is liberated and exerts its effects upon the tissues. In the case of silver nitrate, its well-known coagulating effect upon the mucous membrane is accompanied by the local action of nitric acid, liberated from its chemical combination with the silver; these local effects of the salt are manifested clinically by astringency, causticity, or total destruction of tissue, according to the strength of the silver solution applied; accompanying these structural changes are the well-known symptoms of pain and irritation. It is an indisputable scientific fact that pain and irritation have no right to be the accompaniments of the local use of a silver salt; they are purely extraneous matters and have nothing to do with the action of the silver itself.

Once a silver salt is applied to a mucous membrane and it forms the superficial coagulum of silver albuminate, that ends the function of that silver salt as an antiseptic. As Professor Cushny, of Ann Harbor, states, " nitrate of silver is precipitated by proteids and by chlorides, and its disinfectant action is therefore more limited than that of many other antiseptics " ; in other words, the chemical combinations formed by silver nitrate with the tissues, limit the action of the nitrate to that of but a feeble and superficial antiseptic. Realising the value of silver, clinicians have expressed the desire for a substitute for silver nitrate that would enable them to obtain the effects of silver without the disadvantages of the nitrate. In consequence of this need, much well-directed and systematic work has been done upon this problem by many of the most skilled and scientific chemists of the world; the result has been the production of a large number of new silver compounds. No less energetic than the chemists have been the pharmacologists and clinicians, who, working hand in hand, have endeavoured to discover the laws which govern the therapeutic action of these new silver salts, so that future efforts as to still better forms of silver for clinical use could be made in the right direction. It is now more than ten years since the first of these organic silver compounds made its appearance, and as is usually the case, the discovery of the first compound led to the production of numerous others similar in general characteristics to the original one. To-day the investigator who is possessed of sufficient technical knowledge to correlate properly the results of the chemist's, pharmacologist's, and clinician's investigations, is in a position to deduce the laws governing the therapeutic action of silver and to assign each of the silver compounds to its proper place in modern *materia medica*. Dr. Sigmund Fraenkel, of the University of Vienna, who is the acknowledged leading authority of the day upon the relationship existing between the chemical composition of bodies and their physiological activities, states that the clinical value of a silver salt is determined by these factors: first, it must not coagulate albumen nor precipitate chorides; second, it must be soluble in water; third, it must not produce irritation or pain. With these requirements fulfilled, Fraenkel expresses the consensus of authoritative opinion in the statement that "the clinical value of a silver salt depends upon the amount of silver it contains, and that the greater the silver content the greater the therapeutic value."[2]

Surgeons who have personally studied each of the newer silver compounds as they have appeared will corroborate the observations of Fraenkel when the characteristics of each of the silver products is recalled. Argonin, with its small amount of silver (4 per cent.) and its difficult solubility, was too feeble to be of much use in yielding the antiseptic effects of silver; protargol, with but 8 per cent. of silver, difficult solubility and the irritation produced by even dilute solutions, could not be used in sufficient concentration to obtain silver effects without producing almost as much pain and irritation as the nitrate; albargin contains 15 per cent. silver but is even more irritating than protargol. The above products are types of combinations of silver with various forms of albumen, and possess two of the requirements set forth by Fraenkel, *i.e.*, they do not precipitate albumen or chorides; their clinical value, however, was found to be limited, which fact is due to their small silver content and the irritation and pain which follow the local application of anything but weak solutions.

The local action of the newer salts of inorganic silver—represented by the citrate—differs from that of the nitrate only in the fact that the acid liberated from the compound

of expecting but little of them in comparison with the laudatory claims attached to them, I have always been in a receptive state with respect to proof of their efficacy. So far as I have been able to observe, instead of any of them proving a marvellous cure-all, they have but added their quota to the general advance that has undoubtedly been made."[4]

In other words, the clinical results obtained from each of these silver compounds is in direct proportion to its silver content, its solubility, freedom from irritation, and its behaviour towards albumen and chlorides.

Our personal efforts toward evolving that form of silver which authorities teach it is desirable to obtain were reported in the *Medical Record*, May 24, 1902.[5] It is gratifying to note that since our original report, argyrol, the silver salt discovered by us, has been made the subject of extensive studies in Europe and America by many of the most distinguished clinicians; the published literature on the subject is probably more extensive than that of any single drug produced during the last decade. Incidentally the clinical study of this salt has proven one therapeutic law, which scientists have always claimed but have never been able to demonstrate *viz.*, that silver is not, *per se*, irritating—the irritation produced by the forms of silver heretofore employed was due to the chemical compounds which result when the silver salt comes in contact with mucous membranes.

The evolution of organic silver has forced silver nitrate into the background, so that now its principal therapeutic application is as an astringent; it is safe to predict, however, that when the pharmacological facts concerning this salt are more widely-known it will be replaced to a large extent by the organic salts of zinc and copper, and by such drugs as hydrastine, tannic acid, berberine, etc. As already mentioned, the astringent action of a metal is due to the insoluble compounds formed between the metal and the tissue structures; it is an almost entirely superficial effect, and may be obtained without the undesirable effects of free nitric acid (liberated from silver nitrate) by the milder salts of zinc and copper. Indeed, those oculists who have devoted the most careful attention to ocular therapeutics are using zinc and copper to a larger extent, as an astringent, than silver nitrate. Genito-urinary surgeons prefer zinc acetate, or chloride, or iodide, and berberine muriate or hydrastine, to silver nitrate in the post-gonococcus stage of gonorrhœa, when a purely astringent action is desired. It will be seen therefore that the astringent action of the silver nitrate is entirely subsidiary and in no wise dependent upon the silver itself. Silver possesses, more than any other agent, the ability to penetrate into the sub-mucous structures where in most local inflammatory conditions, pathogenic organisms maintain their lodgment. The inability of inorganic silver (nitrate, citrate, etc.) to reach these deeper structures is due to the coagulum formed upon the surface; organic salts of silver do not form this coagulum, and are therefore better adapted to attacking organisms in the crypts and follicles of the submucosa.

From a review of the established facts concerning the chemical constitution of silver and its behaviour when brought in contact with living tissues, it will be seen that the therapeutic value of the metal is due to its action, which is antiseptic. The ideal silver compound will be a salt or combination which contains the greatest possible amount of the metal in a form which may be used in the strongest concentration without coagulating the surface of mucous membranes, will therefore carry a considerable amount of silver into the deeper structures and will not form irritating combinations with the tissues of the body.

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SOME REMARKS ON THE PATHOGENESIS OF TOXIC AMBLYOPIA, WITH PARTICULAR REFERENCE TO SCHIECK'S LATEST PUBLICATIONS.

By

Dr. A. BIRCH-HIRSCHFELD,

OF THE UNIVERSITY OF LEIPZIG, GERMANY.

In a former communication (5) Dr. Schieck described the results of an anatomical examination of an eye affected with alcoholic amblyopia. From his investigations he concluded that the disease commenced with an alteration of the blood-vessels within the optic nerve, and he thought that as the more centrally situated fibres of the nerve were less liberally supplied with blood, they were the first to suffer. Since the papillo-macular fibres are medially situated, they would be the first affected by the change, which brings about the clinical sign of a central or papillomacular scotoma. Schieck's views as to the pathogenesis of the disease are thus altogether at variance with those of Uhthoff, who in his latest publication (*Graefe-Saemisch*, 1902) maintains his former opinion, namely, that alcohol produces an interstitial retro-bulbar neuritis. The alteration of the papillo-macular bundle, according to Uhthoff, is caused by the greater vulnerability of those fibres, the functional integrity of which is all-important to vision.

Although Schieck's explanation would seem to be the more plausible, yet personally I consider it untenable for the following among other reasons :—1. The central region of the optic nerve is not always the part that suffers the greatest change. Uhthoff has reported some cases, and I have myself examined others, in which the peripheral portion of the optic nerve was alone altered, and the degenerated area took the form of a laterally-situated wedge. 2. The character of the vascular alterations in the vessels of the optic nerve has differed in all the cases examined with the microscope. For example, in one of my own cases the vessels showed little alteration, and it is scarcely likely that such changes could have taken place without leaving visible alterations behind them. 3. Experiments with methyl-alcohol prove clearly that changes in the ganglion cells of the retina may precede degeneration of the nerve-fibres. Despite this fact, the changes in the optic nerve are of such a kind as not to support the view that degeneration is a simple consequence of the lesions of the ganglion cells. In this respect there is an analogy between acute poisoning by methyl-alcohol and chronic poisoning by ethyl-alcohol.

It is certainly not right altogether to neglect the results of experiments with methyl-alcohol when attempting to reach a conclusion with regard to the pathogenesis of chronic ethyl-alcohol amblyopia. There is no record of a complete anatomical examination of a really fresh case of ethyl-alcohol amblyopia in the human subject. We must therefore reckon with the possibility of a direct influence of the drug on the nerve-cells and nerve-fibres. This influence, of course, can be exerted only through the medium of the blood-vessels. But it does not seem necessary that in themselves the nerve changes are exclusively a consequence of anæmia induced by a proliferation of the lining membrane of the vessel walls. Besides, the acute intoxication of methyl-alcohol is characterised by an œdema between the fibres of the optic nerve. This œdema (as both Nuel and I have observed) cannot be regarded as a special cause of degeneration, but as an accessory circumstance. In cases of chronic intoxication by ethyl-alcohol, this œdema will certainly be less visible, as the interstitial tissue, the glia cells, and the connecting fibres have time to proliferate, so that the visible changes must show quite another character.

In his later publications Schieck appeals to a method other than that of pathological examination. To this I object that if the papillo-macular bundle is less advantageously supplied by the blood-stream, we must expect that by other alterations of vessels in the optic nerve a relatively central scotoma, like that accompanying alcohol amblyopia, would be met with oftener than is actually the case.

Schieck adduces three interesting cases, as under :—

Case No. 1.—*Neuritis optica retro-bulbaris chronica e lue.*

A man, aged 35 years, acquired syphilis four years before coming under observation. A couple of years ago there was a failure of sight, affecting both eyes and lasting two weeks. The amblyopia recurred a year ago, after exposure to cold, and since then the sight has not improved. No history could be obtained of the abuse of alcohol or tobacco. V. = 0.1. The temporal half of each papilla was markedly blanched. Each visual field manifested a large central scotoma for blue. No improvement followed treatment by mercurial inunctions.

Schieck believes that in the foregoing case syphilis had produced an interstitial neuritis quite comparable with that of alcohol. But considering how difficult it often is to exclude the abuse of alcohol and tobacco, and the part that influenza may possibly play in the production of retro-bulbar neuritis, and, further, that no vascular alterations as regards other parts of the body could be found in this patient, we are unable to agree that the present is a proper case upon which to base a theory.

Case No. 2.—*Neuritis retro-bulbaris e myocardite.*

The patient was a man, 32 years of age, who gave no history of infection, and denied any abuse of alcohol or tobacco. Twelve days before coming under notice, he had experienced a failure in the sight of his right eye. No pain. He had suffered from endocarditis since his eighteenth year. Upon ophthalmoscopic examination, no pallor of the temporal half of the disc was found. R.V. = 0.2. L.V. = 1.0. A central scotoma—relative for white but absolute for all colours—was present in the right (affected) eye. Myocarditis was present. Treatment by diaphoresis, sodium salicylate, and potassium iodide, led to some improvement in the sight.

Schieck sees in the unilateral distribution of the disease an argument against the existence of an alcoholic amblyopia. To this I reply (and Uhthoff also makes the same remark) that I have myself several times seen the affection at first limited to one eye, and that the time Schieck's patient was under observation—namely, one month—was too short to exclude the possibility of alcoholic amblyopia. We are bound to admit (although no proof of the fact has been produced) the possibility that a lesion of the papillo-macular bundle might be induced by embolic or thrombotic processes caused by myocarditis. Schieck lays stress on the rarity of cases where we can deduce from the clinical symptoms the existence of a local affection of the vessels of the optic nerve. This I unhesitatingly admit. It is, in fact, the very reason which I urged against Schieck's hypothesis of the origin of the disease of the papillo-macular bundle. Certainly in pathological work we often come across arterio-sclerotic changes in the vessels of the optic nerve, without a central scotoma during life. We fail to see why similar changes of the vessels (even those which, as Schieck believes, are capable of disappearing) cause, in the one case, a remarkable loss of vision, and, in the other, vanish without disturbances of sight. In brief, from neither of Schieck's cases could the influence of some toxic substance capable of causing disease of the papillo-macular bundle be excluded.

Case No. 3.—*Neuritis retro-bulbaris monocularis thrombosis partialis ven. centr.*

A man, 58 years of age, complained that the sight of his left eye had failed during the last fortnight. No history of syphilis. There was a history of the former abuse of alcohol and of tobacco. As regards the left eye there was a small scotoma, relative for white and for colours. After some days, retinal hæmorrhages were found. The superior and the internal vein partly vanished. V. = 0.3. After one month the sight of the affected eye was equal to 0.4. Schieck himself admits that this case presents a likeness to toxic amblyopia. The thrombosis of a large retinal vein is a noteworthy fact. This was found when sight was improving, and did not influence the central scotoma. Retinal hæmorrhages are not infrequently observed in cases of retro-bulbar neuritis. Schieck thinks that the amblyopia in the preceding case must be referred to changes in the vessels of the optic nerve. In the second place, the retinal system of vessels was attacked. The first contention I do not consider as proved. Thrombosis of the retinal veins does not, as I think, prove anything as to the nature of the disease of the optic nerve, although we must agree with regard to the possibility of a disturbance in the vessels of the optic nerve. In this case the direct influence of a toxic substance upon the optic nerve and retinal ganglion cells can hardly be gainsaid by Schieck, especially as there had admittedly been some abuse of alcohol and tobacco.

Schieck continues : " If the amblyopia caused by intoxication were the consequence of a primary lesion of the ganglion cells of the retina, a disturbance in the circulation of the retina would have caused an exacerbation of the illness.

Therefore the clinical proof of the indefensibility of the theory of Nuel is brought by this case." Speaking for myself, although I do not personally believe that Nuel's theory—namely, a primary affection of the ganglion cells of the retina—is sufficient to explain the toxic amblyopia, yet I do not regard Schieck's objection as conclusive. The fact is well known that partial thrombosis does not always interfere with central vision. Moreover, such a thrombosis need not necessarily injure the ganglion cells of the retina. We might, I think, see in the venous thrombosis present in Schieck's case a very rare complication of toxic amblyopia, but that obviously does not justify any conclusion as to the pathogenesis of the disease. Since chronic alcoholism often gives rise to vascular changes, such a disturbance of the retinal vessels becomes easy enough to understand.

Schieck comments upon the amblyopia associated with diabetes mellitus, caused by a so-called interstitial neuritis. According to Schmidt-Rimpler's description (*Heidelberg Congress*, XX), I am inclined to see also in that disease a direct influence upon the optic nerve fibres by a toxic agent. The hyperæmia and the increased number of cells in the interstitial tissue are not inconsistent with this view. In my opinion, Schieck goes too far in claiming that the same anatomical changes explain diabetic amblyopia and alcoholic amblyopia. For that matter, the pathogenesis of either form of disease is not yet proved.

In his explanation of the amblyopia caused by lead, Schieck himself speaks of the direct influence of the poison on the nerve-fibres, in addition to the vascular changes. He tries to explain in this way the polymorphous characters of the clinical appearances. This many-sidedness we can explain just as well, even better, if we take for granted, besides the direct influence of the toxin on the fibres of the optic nerve a morbid state of the ganglion cells of the retina, which need not necessarily be manifest in the ophthalmoscopic appearances and which can present different conditions in different parts of the retina. But this also is an hypothesis which must be supported by new examinations. In those cases of central scotoma caused by great weakness—for example, in nursing women—Schieck himself can assume a change in the blood only, and no local change in the vessels.

I do not deny that in all the above-mentioned diseases changes occur in the vessels of the optic nerve, and that they possess a certain significance in the production of the disease. But I consider it unwarranted to look upon them as the sole cause of the localisation of the disease to the papillo-macular bundle of the optic nerve. A direct toxic influence can be excluded from none of the cases. From the close relationship between nerve-fibres and ganglion cells in nutritive and functional respects, from the different structure of the central and peripheral retina, and from the appearance of the papillo-macular fibres, we can readily understand, I think, an isolated disorder of the papillo-macular bundle. We must probably also regard the relations of the blood-vessel distribution. Yet the several facts adduced by me above tell against the view that the changes in the vessels alone cause the localisation of the disease. Under no circumstances can one disprove a direct influence of the various toxic agencies upon the optic nerve-fibres and the ganglion cells of the retina.

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ON DIONINE.

By

A. Darier, M.D., of Paris.

After four years' personal experience of dionine as a therapeutic agent in eye work I can to-day claim that in many circumstances it is a more valuable remedy than even cocaine itself. There are, however, some who still fail to appreciate dionine at its proper worth.

The application of dionine to the eye (it is useless to disguise the fact) is painful. But undue stress has been laid upon this feature by those who have chanced to fall upon a patient hypersensitive to the product. When the surgeon warns his patient with regard to this point and insists that the temporary discomfort will be followed by marked therapeutic results, there will be no difficulty about putting up with the pain.

Moreover, dionine should never be placed in immediate contact with the cornea. Hence, solutions, and especially the substance itself, should be placed well in the lower cul-de-sac, and in extremely sensitive patients, cocaine may be dropped into the eye before a tiny drop of 2% dionine is used. If the effect be not sufficient in ten minutes, one or two drops of a 5% solution are employed, or if a yet stronger effect be desired, a morsel of powdered dionine may be used or the solution may even be injected beneath the conjunctiva.

Dionine sets up lacrymation, sneezing, and more or less chemosis of the conjunctiva, effects too well known nowadays for it to be necessary to insist upon them. These results, however, may be so marked that a practitioner who is ignorant of them may be as much startled as the patient himself. In case of a too violent reaction, a bandage may be applied and kept in position until next day, when a bettering of the pathological processes for which dionine was used will nearly always be observed. Thus, in detachment of the retina when no result has followed several sub-conjunctival injections of sodium chloride, I can hardly recommend too highly injection, along with the saline fluid, of one to two centigrammes of dionine. The reaction is most violent. The swelling of the conjunctiva and eyelids is enormous. But the curative result is correspondingly pronounced. By these means I have succeeded in obtaining re-attachment of the retina under conditions the very reverse of favourable. The facts of the case were these: the first eye had been lost for twenty years as the result of detachment. The other eye, operated upon for cataract five years ago, had had with 12 D. vision of $\frac{1}{3}$, but for two months sight had been completely abrogated owing to complete detachment of the retina. After twelve sub-conjunctival injections without result, I made one injection of two centigrammes of dionine. Two days after the little operation, the retina was completely re-applied.

Dionine is the physiological antiseptic *par excellence*. The lacrymation, hyperæmia, œdema, and chemosis provoked by the agent constitute a set of phenomena which well deserve the name of *Lymphüberschwemmung*, given to them by Wolffberg. This lymphatic inundation washes not only the surface of the eyeball but also the sub-conjunctival and intra-corneal lymph spaces, and perhaps even the intra-ocular spaces. There is, further, not only an afflux of liquid but also of lymphocytes charged with the defence of the parts, so that there is a more active production of antitoxines and of phagocytes.

This conjunctival flushing, so to speak, may be turned to account in some forms of chronic conjunctivitis, where it is found to hasten the resolution of the morbid process and to render subsequent cauterisations more effectual. But that is not all. By these means the field may be prepared the night before we operate for cataract, glaucoma, and so forth. In acute or sub-acute glaucoma my invariable rule is to apply dionine to the eye. This had often allowed me to dispense with chloroform, inasmuch as the eye becomes much less sensitive to operative procedures. Indeed, more than once so much improvement has resulted from the dionine that patients, believing themselves to be cured, have refused surgical intervention. After removal of cataract, Wolffberg has found dionine to be at once a good antiseptic and an excellent means of healing the wound. This plan I employed for more than a year, until upon one occasion dionine set up such violent sneezing as to rupture the incision (which had already healed), and thus to allow the aqueous humour to escape from the eye. A cystoid cicatrix, which persisted for two months, was the result of this untoward accident. Since then I do not apply dionine immediately after operation, although I still always use it after the first dressing on the third or the fourth day.

On the other hand, always employ dionine before the dressing is applied in operations which do not involve the cornea. This should be done even after the removal of foreign bodies, particularly if the foreign substance has provoked a zone of infiltration, as is nearly always the case when it has remained for several days in the tissue of the cornea. I have thus often brought about a rapid absorption of the exudation and sometimes even of an hypopyon. When the metallic particle is so firmly fixed in the cornea that it can be extracted neither with the gouge nor with the magnet, I have now and then applied a little powdered dionine to the wound. A localised œdema of the cornea then results. This loosens the foreign body, which can then often be readily removed.

In infective ulcers of the cornea, powdered dionine cleanses the suppurating surface. In slight cases hypopyon may disappear and cure result without having recourse to the galvano-cautery or to sub-conjunctival injections. The most striking successes, however, are to be obtained in the so-called "strumous" ulcers of children, with or without hypopyon. In threatened suppuration after removal of cataract the edges of the wound should be touched with powdered dionine. If violent reaction follows the application, there is a chance of success, but in the contrary event no time must be lost before applying the galvano-cautery or making sub-conjunctival injections of mercury cyanide. Inunctions with collargol ointment should also be practised every six hours, since these frictions have a real and potent action, provided they are carried out with energy and at regular intervals.

Diffuse corneal infiltrations, on condition that they are recent and not very deep, promptly resorb under the influence of dionine. I have seen a recent superficial macular keratitis clear up in three or four days under a single application of powdered dionine.

Dionine is useful in interstitial keratitis when used at the beginning and more especially towards the end of the disease. In leucomata, also, it is of service. But the opportune moment for the application must be seized. Dionine, to which the eye soon becomes tolerant, cannot be employed with good effect for longer than three consecutive days. This clinical fact leads me to prescribe for home-use in such cases massage with calomel and lanoline, while every eight or ten days I make an energetic application of dionine to the patient's eye. It is in the event of failure only that recourse need be had to jequiritol.

Dionine hastens the resolution of conjunctival hæmorrhage, especially when the last-named is not copious. Cyanide of mercury (1 . 10,000) is also useful under these conditions.

Although dionine has little action as an anæsthetic, yet it is a most useful analgesic. However, it is a curious thing that an eye under the influence of dionine may be more deeply anæsthetised than would otherwise be the case with cocaine. Under these circumstances, as I have said before, I have operated upon acute glaucoma that in the ordinary way would have required chloroform. Adrenaline employed under parallel conditions is a double-edged weapon, preventing hæmorrhage during operation, on the one hand, but predisposing to hæmorrhage after operation, on the other. The fact should be mentioned that analgesia by means of dionine cannot always be obtained, since some individuals are refractory to the action of the medicament. A poor old woman, 78 years of age, had lost one eye from glaucoma. The second eye, atrociously painful, was affected with extremely acute glaucoma when I saw the patient. The pain was subdued in a few hours with dionine, and the sight restored by physostigmine, after she had refused all surgical intervention.

Among other diseases in which dionine may render service, I may mention some forms of keratitis, episcleritis, and above all, certain kinds of iritis and iridochoroiditis, where not only does it relieve pain but facilitates resorption of exudation and dilatation of the pupil.

CURRENT LITERATURE.

NOTE.—Communications of which the titles only are given either contain nothing new or else do not lend themselves to abstract.

I.—ANATOMY, PHYSIOLOGY, PATHOLOGY, AND BACTERIOLOGY.

Ahlstrom, Gustaf. — Transparent cysts of the Eyelids. (Kystes transparents des Paupières.) *Annales D'Oculistique*, T. CXXIX (1903), p. 107.

Ahlstrom extirpated several large transparent cysts from the eyelids of an elderly woman, and submitted the tumours to microscopic examination. Their walls were composed of condensed fibrous tissue, containing some thin-walled blood-vessels and striated muscular fibres. They were covered with several layers of epithelium, and lined with endothelium. They contained a limpid fluid, of feebly alkaline reaction. According to Ahlstrom, the growths are to be regarded as retention cysts, originating from the sweat glands of Moll situated on the free border of the eyelids. H. de V.

Fehr.—A case of peripapillary sarcoma with extension to the optic nerve and its sheath. (Ein Fall von peripapillärem Sarcom mit Ausbreitung auf Sehnerven und seine Scheiden.) *Centralbl. f. prak. Augenheilkunde*, Mai, 1903.

A man, aged 52 years, complained that the sight in one eye had been failing for one year. Upon examination, V. = hand-movements. The site of the optic disc was concealed by a dark-grey tumour, eight papilla-diameters in width. The mass was considerably raised, and had outlying ramifications. It was covered with retina, the vessels of which came from a cleft towards the nasal side of the mass, evidently marking the position of the optic papilla. Two months later, the eyeball was enucleated under cocaine, and a piece of optic nerve, 6mm. in length, was taken away. To the naked eye, the latter showed signs of sarcomatous infiltration into the vaginal space. There was no recurrence during the two years the patient remained under observation.

After hardening in formol, the affected eyeball was divided into an upper and a lower half by means of a horizontal section. The eyeball had a normal size and shape. At its posterior pole, pierced by the optic nerve, lay a prominent tumour, of which two-thirds lay in the lower, and one-third in the upper half of the globe. The retina, which was attached to the neoplasm, showed no obvious detachment. Upon section, the growth was seen to be speckled with pigment. The nerve-sheath, in the scleral cavity and for 1.5mm. behind the same, contained black masses of new growth. The optic nerve itself appeared to be normal. Serial sections were next made and stained in various ways. The tumour was found to be a mixed cell sarcoma, with an irregular but abundant distribution of pigment. Fehr gives an elaborate account of the histological appearances, illustrated by nine photomicrographs.

S. S.

Panas.—Oil cysts in the periphery of the Orbit. *American Journal of Ophthalmology*, January, 1903.

Panas designates by the name "oil cyst" a variety of dermoid which is fluctuating, smooth, tense, and often semi-transparent, and which contains an oily fluid, either colourless, or having a brownish colour. In the former case the contents consist of oleates, margarates, or stereates, insoluble in water, whereas in the latter case they consist of glycero-stereates or palmidates, more or less soluble in water. The contents congeal at the ordinary temperature, and so come to resemble cocoa butter previously heated. The cysts, so far as is known, are always situated towards the periphery of the orbit, especially to its nasal side, or "at the tail of the eyebrow." They have rarely been seen down or outwards, and in one instance only (Fieuzal) at the temple. There are histological differences between the posterior, or deep, pole of the cyst, and the anterior pole under the skin. This distinction becomes more obvious as the cyst increases in size. Briefly, the posterior pole continues to show all the attributes of true skin, while the anterior pole is much thinner, is poorly supplied with sebaceous glands and hair-follicles, and is often in places or altogether denuded of epithelium. As regards diagnosis, Panas lays stress upon the fluctuation of the cysts, their common prelacrymal position, and the fact that they are either congenital or have appeared at an early age. In doubtful cases, an exploratory incision must be made. Prognosis, of course, is absolutely good. The cyst, however, must be dissected out entire. If the sac is opened during the operation, the rest of the wall is best removed with a sharp spoon. This is much preferable to leaving it behind, and thereby producing a fistula, which is fraught with inconvenience and danger.

Verhoeff, Frederick H. and Loring, Robert G.—A case of primary Epibulbar Sarcoma, with secondary growths in Limbus and Sclera, and invasion of the Choroid, Ciliary Body and Iris. *Archives of Ophthalmology*, March, 1903.

Verhoeff and Loring give the following conclusions regarding epibulbar sarcoma:—(1) Epibulbar sarcoma differs from general sarcoma in malignancy only in so far as it is isolated on the highly resistent cornea and sclera, and comes to operation relatively small. (2) While highly malignant it seldom penetrates the interior of the eye. (3) After abscission recurrence, sooner or later, almost invariably occurs and general metastases are not infrequent. (4) A microscopic examination having made the diagnosis certain, immediate enucleation should be advised in all cases, but the final choice of operation must lie with the patient, to whom the highly unfavourable prognosis has been made clear,

Duclos.—Plexiform Neuroma of the Eyelid. (Névrome plexiforme de la Paupière.) *Annales D'Oculistique*, T. CXXIX (1903), p. 276.

A child of three years presented a swelling of the outer part of the right upper eyelid. The skin was of normal appearance. Upon palpation the swelling conveyed the sensation of hard interlaced cords, and the same feeling was experienced on passing one's finger beneath the supra-orbital arch. A diagnosis of plexiform neuroma was made by Valude, and the condition was treated by electrolysis. The result was not very marked, and so, finally, the tumour was more or less removed with scissors. Fragments of the tissue were examined by Duclos with the microscpoe, after fixing in Flemming's fluid, Müller's fluid, etc. The bulk of the tumour was made up of fibrous bundles arranged in various ways and bound together with hyperplastic connective tissue. All the fasciculi had practically the same composition, *viz.*, a thick, laminated sheath of hyperplastic connective tissue, enclosing degenerated nerve-fibres, provided with myeline sheaths. Elastic fibres, striated muscle, fat, arterioles, and venules were also found in the tumour. S. S.

Sempé and Villard.—Primary Sarcoma of the Cornea. (Sarcome primitif de la Cornée.) *Annales d'Oculistique*, Avril, 1903.

Sempé and Villard state, that so far, six cases only of primary sarcoma of the cornea, confirmed by histological examination have been reported, namely, those described by Rumechewitch, Blanquinque, Chatinière, Donaldson, Gonin, and Rogman (for a recent case by Baas see OPHTHALMOSCOPE, February, 1904, p. 56). The present case occurred in a man, aged 65 years, who had had an epithelioma of the lower lip excised fifteen months before he was seen by the authors. A small pinkish, flattened growth, the size of a millet seed, had existed on the cornea for about fifteen years. There had been three inflammatory attacks in the eye. The little tumour had become larger after several attempts to destroy it by the galvano cautery. When seen by Sempé and Villard, the cornea was transformed into a pale-red, fleshy mass, not encroaching upon the ocular conjunctiva; sight was lost; and the eye was extremely painful. The globe was accordingly enucleated. When the patient was last heard of, fifteen months after the operation, there was no ocular recurrence, although the epithelioma mentioned above had relapsed. Upon microscopical examination, the corneal neoplasm was found to be an alveolar sarcoma. S. S.

Benson, Arthur H., and Symes, Langford.—Case of tumour of apex of orbit (probably sarcoma.) *Medical Press and Circular*, November 18, 1903.

Benson removed from the apex of the orbit of a woman, aged 48 years, a slowly-growing, hard tumour, 2 in. by 1½ in., through which the optic nerve passed. The eyeball, which was blind and protruded, sat in the hollow of the neoplasm, like an acorn in its cup. Symes's pathological examination showed that the growth was made up of alveolar loculi, containing masses of round or ovoid cells. The authors think that the tumour "apparently belonged to the sarcomata." The pathological account, it may be added, reads much like a description of an endothelioma.

Zobel, G.—A case of bilateral metastatic pneumococcus panophthalmitis. (Ein Fall von doppelseitiger, metastatischer Pneumokokken-ophtalmie.) *Zeitschr. f. Augen.*, January, 1904.

Patient suffered from a right pneumonia. On the second day after the crisis the left eye became inflamed, and on the fifth day the right eye. The patient died, and a very careful bacteriological and pathological examination was made. It was found that the cause of the metastases was that a suppurating bronchial gland eroded into the right pulmonary vein, and, besides the eyes, metastases were found in the meninges and in the one kidney which the patient had. Pure cultures of the pneumococcus was obtained—pathogenic for mice and rabbits—and the specially stained microscopic sections showed them to be present in considerable numbers. Both eyes presented the picture of a panophthalmitis.

A. Levy.

Risley, S. D.—Changes in Refraction. *Ophthalmic Record*, March, 1903.

Risley formerly believed that the static refraction of the eye was a fixed and practically immutable quantity. Hence, when an alteration in refraction was found at a second or subsequent examination, he put down the change to an error in the first determination. In the present communication, however, he relates several cases which go to prove the contrary. He quotes instances where there were changes in the direction of the axes of the cylinders originally prescribed, where a cylindrical became converted into a spherical error in the course of time, and so forth. It is important to note that such changes only are included as did not involve a stretching of the ocular tunics.

Rosenstein.—A Mycotic Ulcer of the Skin of the Lid. (Ein schimmliges Geschwür der Lidhaut.) *Centralb. f. prak. Augen.*, January, 1904.

A case, apparently of simple ulcer, which had become infected with what was taken to be a form of yeast cell and which consequently had assumed the characteristics of such an ulcer. The edges were raised, the floor crater-like and irregular, the whole absolutely dry and covered with thick yellowish-white masses. Cover glass preparations showed abundant yeast cells and a few mycelium forms. Several attempts at cultivating these were uniformly negative. The treatment, which was highly successful, consisted of destroying the edges and base of the ulcer with the Paquelin cautery. A. LEVY.

Dean, C. W.—A case of Primary Papilloma of the Cornea. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

A tumour, equal in size to a flattened pea, was inseparably connected with the lower-inner quadrant of the cornea in a man aged 53 years. The growth was shaved off by means of a Critchett's knife, and the patient made a good recovery with an almost completely transparent cornea and vision nearly $\frac{6}{6}$. The pathological report stated that the tumour was "papillomatous, with much heaping up of horny epidermis."

Sinclair, W. W., and Parsons, J. Herbert.—Endothelioma of Cornea. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

A soft, grey, vascular, gelatinous-looking mass was found at the upper part of the cornea in a woman, aged 54 years. It measured 6 mm. vertically by 6·5 mm. horizontally. The growth had existed for about twelve years, and had been operated upon several times. Sinclair removed the tumour with a keratome. Pathological examination by Parsons showed that it consisted of masses of epithelioid cells arranged in an alveolar manner, enclosed in capsules of spindle-celled fibrous tissue. Parsons concludes that the growth was an endothelioma, originating from the limbus, and invading the cornea secondarily.

Pfingst, Adolph O.—Report of a case of Dermoid Tumour of the Corneo-scleral margin. *Ophthalmic Record*, January, 1903.

Pfingst removed from the lower-outer part of the sclero-corneal junction a convex, yellowish-pink growth of firm consistence. Several long hairs grew from it, and it was adherent both to the cornea and to the sclera. To the naked eye it gave the impression of an elevated island of skin engrafted on the cornea and sclera. The tumour had existed from birth, but had latterly become bigger. Upon microscopical examination, it proved to be a dermoid. Pfingst concludes his communication with remarks upon the teratoid tumours in general.

II.—CONGENITAL CONDITIONS.

Hirschberg, J.—Upon congenital alterations of the pigment layer of the Iris. (Ueber angeborene Ausstülpung des Pigmentblatts der Regenbogenhaut.) *Centralbl. f. prak. Augenheilk.*, November, 1903.

Hirschberg mentions three cases of congenital alterations in the pigment layer of the iris published in 1885 by his former assistant Ancke, and alludes to cases reported since then by Spiro and by Fehr respectively. According to Hirschberg, there are three main forms of the anomaly, as under. (1) The first is the commonest form. By reflected light, the pupillary edge is jagged, and resembles the cog-wheel of a watch. By lateral illumination, the toothed appearance is seen to be caused by numerous little roundish outgrowths of a dark-brown substance lying near one another at the free edge of the pupil. They are mainly developed on the lower pupillary edge, where they hang down like so many little bags over the smaller circle of the iris. (2) The second resembles an ornamental neck-ruffle lying at the free edge of the pupil, and is made up of a redupication of the pigment layer. In this form the iris has a bluish colour. (3) The third form a broad, dark, furrowed figure attached, like an apron, to the pupil, and ending in ornamental notches at the pupillary edge. In conclusion, Hirschberg alludes to changes in the pigment layer of the iris from disease, from which he sharply differentiates the above-described congenital anomalies.

Santucci, S.—Contributions to the study of Congenital Colobomata of the crystalline lens. (Contributo allo studio dei Colobomi congeniti della lente). *Annali di Ottal.*, 1903, V. 32, Fas. 9 and 10, p. 636.

Santucci's patient, a man aged 38 years, was affected with cataract and coloboma of the left crystalline lens. The colobomatous lens was removed by operation, and examined histologically. The rounded form of the lower edge of the lens, the large zone of vacuolisation that it presented below, the slight hollowing out that it showed before the operation, etc., proved that in this case the pathogenic theory to be adopted was that of Ottingen and Otto Becker, namely, the zonular theory. A. ANTONELLI.

Posey, Wm. Campbell.—Report of two cases of Congenital Anomalies of the Eyes, illustrating the transmission of such defects from mother to daughter. *Ophthalmic Record*, February, 1903.

Thomson, Ernest, and Ballantyne, A. J.—Congenital (? and hereditary) development of choroidal tissue in the Optic Nerves of two brothers. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

Two brothers were found to be myopic, and each presented "a bilateral fundus appearance of choroidal tissue in the temporal third of the optic nerves."

Thomson, Ernest, and Ballantyne, A. J.—Crater-like hole in the Optic Disc. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

A male patient, with 6 D of myopia, presented a rare congenital appearance of the left optic disc. The latter appeared enlarged to the temporal side, and in that particular portion there was an oval area, about one-third of the disc-diameter in length. That this appearance represented an actual hole was proved by focussing. The disc of the other eye was normal. (For similar cases *see* Frost's Atlas.)

Thomson, Ernest, and Ballantyne, A. J.—Pigmented Colobomata of the Optic Discs. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

A female patent, with 9 D. of myopia, presented two unusual optic papillæ. The disc looked as if a wedge had been cut out of its lower-outer portion. This wedge-shaped area contained a network of brown pigment, situated 1 D. below the level of the disc-surface.

Eason, Herbert L.—A case of congenital defect of movement of one eye associated with a slight degree of enophthalmos. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

Eason reports the case of a young child who showed a congenital (nuclear) defect of that portion of the III. cranial nerve supplying the extrinsic muscles of the eyeball. There was slight ptosis, and the eyeball was somewhat sunken. No history of injury at birth: labour simple, and instruments not employed.

Werner, L.—Coloboma of the Optic Nerve-sheath, with microphthalmos. *Trans. Ophthalmological Society,* Vol. XXIII, 1903.

In Werner's case one optic disc was represented by a large, deep excavation, measuring four disc-diameters vertically, and surrounded by a partly pigmented border. The colour of the excavation varied from a brilliant white to a pearly grey. Its floor was uneven. The retinal vessels showed several departures from the normal.

Thomson, Ernest, and Ballantyne, A. J.—Chorio-vaginal veins in the myope and hypermetrope. *Trans. Ophthalmological Society,* Vol. XXII, 1903.

In opposition to the views expressed by Oeller and by Haab, with regard to chorio-vaginal veins, the authors say: "While admitting that abnormalities seem to be particularly prone to occur in the myope, we would suggest that 'posterior venæ vorticosæ' or 'chorio-vaginal veins' may be observed with moderate frequency in poorly-pigmented fundi, whether myopic or not."

Donaldson, E.—A case of deformity of the head and proptosis. *Trans. Ophthalmological Society,* Vol. XXIII, 1903.

A child of 2½ years was brought to Donaldson suffering from protrusion of the eyeballs and a steeple-shaped, oxycephalic, skull. The condition was present at birth, and was thought to be non-progressive. There was horizontal nystagmus and a tendency to divergence. The optic discs were pallid, and sight was defective. The exophthalmos was so marked that on several occasions one eye became partially dislocated, and had to be replaced by the patient's father. Lastly, the great toes were broad; the palate was highly-arched; and hallux varus was present on each side. (For an analogous case by H. W. Dodd and W. H. McMullen *see* OPHTHALMOSCOPE, September, 1903, p. 114.)

Buchanan, Leslie.—Case of congenital mal-development of the cornea and sclerotic. *Trans. Ophthalmological Society,* Vol. XXIII, 1903.

The left eye of a child, aged nine years, was enucleated on account of a septic injury. Upon pathological examination, Buchanan found the cornea and the sclera to be unusually thin, the former being estimated at three-fifths and the latter at one-third the normal thickness. The corneal and scleral fibres were of normal size, but relatively few in number. Bowman's membrane was absent. The remaining eye presented some curious features, such as a bright blue colour of the sclera and a conical cornea. The condition is to be explained, Buchanan thinks, on the theory of a congenital defect of development. The author gives references to somewhat similar cases by von Ammon, Wilde, and Warlomont.

Doyne, Robert W.—A case of microphthalmos. etc. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

A girl, aged 12 years, presented small corneæ, nystagmus, coloboma of right iris inwards and of left iris inwards and upwards, and cloudy lenses.]

Alexander, L.—Arterial loops in the vitreous body. (Arterienschlinge im Glaskörper.) *Zeitschr. f. Augenheilk.*, X (1903), 3, and *Wochenschr. f. Ther. u. Hygiene des Auges, November 26th*, 1903.

As a casual discovery in an otherwise normal eye, Alexander found a peculiar condition of the lower branch of the arteria centralis retinæ. The vessel in question divided into two branches upon the optic disc. Immediately after the division, the nasal branch entered the vitreous body in a sagittal direction. After describing a loop, it ran round the parent stem in several convolutions to its point of origin, in order then to reach its distribution in the ordinary way. The colour of the blood in the convoluted portion of the vessel was darker than elsewhere. There were traces of connective tissue about the artery. Pulsation, synchronous with the radial pulse, could be induced in the aberrant vessel by pressure upon the eyeball, although the vessel itself could not be made to disappear.

Barck, C.—On congenital defects of motility of the ocular muscles—Report of two cases. *American Journal of Ophthalmology*, December, 1903.

Barck describes two cases in children of congenital defects of motility of the muscles of the eye. In the first case there was a paretic condition of the levator and of the extrinsic muscles of the eyeball supplied by the oculo-motor nerve. The intrinsic muscles were intact. In the second case both eyes were involved, one more than the other. There was nystagmus, and the muscles supplied by the third and the sixth nerve were affected. The intrinsic muscles and convergence were not involved. Barck gives the following points as diagnostic between congenital defects and acquired nuclear paralysis: (1) despite palsy of the associated movements in the congenital forms the convergence remains intact; (2) secondary contractions do not occur in the former; (3) congenital defects are frequently one-sided, while infantile nuclear palsy always affects both sides; (4) the congenital are frequently accompanied by other defects of development, *e.g.*, facial paralysis; (5) diplopia cannot be elicited in the congenital forms. With regard to the relative frequency, ptosis and nystagmus rank first; then come affections of the abducens; and, finally, those of the oculo-motor, with or without ptosis, up to complete ophthalmoplegia externa. Barck concludes that the cause of the larger number of these congenital defects lies, not in the muscles themselves, but in the nervous apparatus.

Peschel, M.—Congenital epidermis coating of the caruncula lacrymalis. (Congenitaler Epidermis - Ueberzug der Thränenkarunkel.) *Centralbl. f. prak. Augenheilk.*, Mai, 1903.

A boy, six years of age, was brought to Peschel with the statement that his eyes were perpetually watering. Upon examination, the caruncle was found to be covered with a triangular strip of epidermis, the apex of which was continuous with the skin at the inner canthus of the eye. A number of tiny pores, like those present in normal skin, were to be recognised in this covering. The condition was symmetrical but not quite equal in the two eyes. The plica semilunaris and the upper puncta lacrymalia were normal. The lower puncta, on the contrary, were surrounded by epidermis, and were slightly everted, so that they failed to dip into the lacus lacrymalis, thus accounting for the lacrymation. There were no other congenital deformities, either of the eye or of the body generally. S. S.

Harman, N. Bishop.—Rectangular connective tissue film veiling the Optic Disc. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

In a female patient, aged 25 years, Harman found the right optic disc covered with a rectangular film, resembling a piece of thin mica. It lay superficial to the vessels on the papilla. Vision normal. There were other minor deformities of the retinal vessels, etc. Harman regards the film as an exaggeration of the perivascular connective tissue so often seen about the disc. Its rectangular shape he thinks due to regular traction in the growth of the globe.

Doyne, Robert W.—A Child with Multiple Deformities of the Eye, Eyelids, etc. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

A girl, aged 2 years, came under Doyne's care on account of some curious deformities of the eye and neighbouring parts. Thus, there was a cleft in one upper lid, and a second cleft occupying the position of the inner canthus of the same eye. There was, besides, a coloboma of the iris and of the choroid. a distended lacrymal sac, and dwarfing of one side of the nose and of the corresponding nostril. The palate was highly arched. No family history of deformities.

II.—DISEASES AND INJURIES OF THE EYE AND ORBIT.

Wilder, Wm. H.—Tuberculosis of the Iris, with presentation of microscopic specimens. *Ophthalmic Record*, July, 1903.

Some difference of opinion exists as to the frequency of tuberculosis of the iris. Wagner and Michel, on the one hand, state that 50 per cent. of all cases of iritis are of this nature; on the other hand, Horner estimates that it occurs once in 4,000 cases of eye disease, and Hirschberg met with six cases only amongst 60,000 eye cases. Wilder himself regards tubercle of the iris as a rare affection. It is essentially a disease of childhood and adolescence. Most of the patients present a family or personal history of tuberculosis.

Tuberculosis of the iris, according to Wilder, manifests itself in three forms: 1. Solitary tubercle; 2. Disseminated tubercle; and 3. Simple inflammatory tuberculous iritis (Michel). The characters of 1 and 2 are so well known as not to call for any further description. As to 3, the tubercles are not clinically demonstrable, since they lie in the substance of the iris and not upon the surface of the latter. The disease assumes the form of a chronic iritis or irido-cylitis, and leads to posterior synechiæ, partial or complete. The nature of the malady may be demonstrated by excising a piece of the iris, and examining it microscopically for tubercle. Deposits of lime or even of true bone are not unknown in the iris. Leber, Samelsohn, and Van Duyse describe as "attenuated" a form of tuberculous iritis, which presents the features of the disseminated variety, and which may terminate in spontaneous recovery, the functions of the eyeball being partly or wholly preserved. This form is slower in its course, and affects older persons. Is tuberculosis of the iris primary or secondary to some other tuberculosis lesion? Many capable observers take the view that it is primary. It is argued that the eye of a sound person may be infected locally through an abrasion of the cornea or an ulcer of the cornea or conjunctiva, and that in such manner the bacilli may gain entrance to the deeper circulation of the eye.

All forms of tubercle of the iris present similar histological features, namely, the formation of round cells around a central giant cell. The mass of tubercle is frequently seen on the wall of a vessel, and develops from the adventitia. "This is one means of differentiating histologically a tubercular from a syphilitic node, for in the latter the growth begins in the intima, and the lumen of the vessel is blocked. In the milder forms of the disease, the bacilli are very scarce and difficult to find. It is assumed, therefore, that in some of these cases the exciting cause is not so much the direct action of the bacilli, as it is the irritation caused by the toxins generated by them circulating through the delicate tissue of the iris, which, for some reason, is unusually sensitive and susceptible."

Freund, H.—On "Lattice-like" Opacity of the Cornea. (Die gittrige Hornhaut Trübung.) *V. Graefe's Archiv f. Ophthalmologie*, 57 (2), December, 1903.

Although the essential features of this very curious affection, (first described by Bieber, Haab, and Dimmer) are well known, it seems desirable to quote Freund's contribution, which is important, inasmuch as he can refer to fifteen cases of this rare disease. As usual, the heredity of the condition was well marked, all the fifteen cases belonging to two families only, in one of which all grown-up members were affected. The symptoms appear first after puberty, and both eyes are always affected. The symptoms of what Freund describes as the first stage are, as a rule, not very striking. The patients complain of blurred sight, which is due to a few slightly raised nodules, which occupy the centre of the cornea. Corresponding to them we find some slight opacity immediately below the epithelium, which under a magnifying glass can be seen to consist of small dots and lines, which cross and thus produce the "lattice-like" design. There are other more or less radial lines visible, which bifurcate towards the centre, and which, if seen with the ophthalmoscope, appear black and not unlike the residua of deep vascularisation. In the second stage the opacity increases and becomes fairly universal, and lines barely discernable; the surface appears more or less knobby. Here the process sometimes seems to stop; but in other cases the epithelium degenerates still more extensively, becomes scar-like, of chalky appearance, and exceedingly vulnerable, producing superficial ulcers and distressing symptoms of desiccation. The peripheral parts of the cornea may escape, and some improvement may then be effected by Iridectomy, but, otherwise, treatment is most ineffectual and unsatisfactory. R. GRUBER.

Fehr.—On Corneal degenerations occurring in families. (Uber familiäre, fleckige Hornhant Entartung.) *Centralbl. f. prak. Augen.*, January, 1904.

The author recounts three cases (two sisters and a brother) of this form of corneal degeneration, which appears to be of the same nature as the hereditary nodular opacities described by Fuchs as *gittrige Keratitis*, only the appearance presented was somewhat different. All three cases were first seen when about 20 years of age and were found to have these corneal opacities. The condition was a slowly progressive one, in spite of many different forms of treatment, and now when they are between 50 and 55 years of age, the patients are practically blind. There is no history or evidence of tuberculosis or syphilis. What distinguishes these cases from preceding similar cases is that although the opacities are in the superficial layers of the cornea, the surface is everywhere smooth and bright, nowhere is there any unevenness or opacity in the surface of the cornea, and this is due in these cases to an intact Bowman's membrane, a condition not present in the cases described by Fuchs and others. A. LEVY.

Purtscher.—Traumatic prolapse of the lacrymal gland. (Traumatischer Vorfall der Thränendrüse.) *Centralbl. f. prak. Augenheilkunde*, December, 1903.

Purtscher comments upon the rarity of traumatic dislocation of the lacrymal gland, and quotes the instances that he has been able to collect from the literature of the subject (for a recent case *see* OPHTHALMOSCOPE, vol. 1, [1903], p. 187). Most of the reported cases, as he points out, have been met with in children. The author then gives details of two cases that have fallen under his own observation. 1.—A male child, 2 years of age, received an injury over one eye. When examined, the upper lid was swollen, and showed a recent wound, nearly 2 cm. long. After the wound had been cleansed, a bi-lobed, rounded, yellowish-red body presented itself. Neither the conjunctival sac nor the eyeball was injured. The parts were cleansed, the gland reduced, and the wound closed with three sutures. Uninterrupted and satisfactory recovery. 2.—A man, 23 years of age, in falling, struck his face, and sustained a lacerated wound of his left upper lid. Seen three days after the accident, a flat, bean-shaped, fleshy tumour, 13 mm. across and 4.5 mm. in height, was found in the wound, and recognised as the orbital lacrymal gland. Treatment as in the first case, with a similar result. S. S.

Hirschberg, J.—A case of bilateral Glioma of the Retina. (Ein Fall von doppelseitigem Markschwamm der Netzhaut.) *Centralbl. f. prak. Augenheilkunde*, December, 1903.

Hirschberg reports a case of bilateral glioma met with in a female infant, aged ten months. A shining appearance of the right eye had been observed when the child was four months' old, and a similar appearance of the left eye was noticed three months afterwards. The child was otherwise in good health. No treatment was adopted. The communication (which is commendably brief) concludes with some general remarks upon the frequency and the management of bilateral glioma of the retina. S. S.

Nettleship, Edward.—A discussion on eye changes in relation to renal disease. *Brit. Med. Journal*, September 26, 1903.

Nettleship points out that retinal changes are more likely to occur in chronic interstitial and in parenchymatous nephritis than in other forms of kidney mischief. He agrees with the opinion generally held as regards the prognosis of renal retinitis due to pregnancy, namely, that it is better than in ordinary cases. Thus, of 22 cases of pregnancy retinitis 41 per cent. lived for two years or more after the discovery of the retinitis, while of 41 cases of renal retinitis, 22 per cent. only survived for more than two years. "The majority of cases of pregnancy retinitis do not occur until after several pregnancies, but when it occurs during the first pregnancy subsequent pregnancies may occur with no return of the renal or eye symptoms." Nettleship's statistics appear to show that the prospect of life is better when renal retinitis occurs after than before 55 years. The proportion is about two males to one female, although, curiously, in early life this proportion is reversed. The main factors in the causation of renal retinitis are: (1) a morbid state of the blood, and (2) a diseased condition of the retinal arteries. The writer believes that an early stage of granular kidney may be suspected if hyaline thickening of the retinal arteries is seen with the ophthalmoscope, more especially if the patient be fairly young. In older subjects, however, this hyaline change in the arteries should be regarded as a danger signal pointing to the possibility of cerebral hæmorrhage. Nettleship is clear in his own mind that there exists one kind only of renal retinitis, although the clinical appearances will naturally differ according to the stage of the affection. As regards diabetic retinitis, a little albumin is often passed in the urine, but, according to the author, " it is well established that retinitis may occur in diabetes without albuminuria." Diabetic retinitis differs somewhat in ophthalmoscopic appearance from that due to renal mischief. The prognosis as to life is better in the former than the latter cases. Renal retinitis is almost always symmetrical, but when hæmorrhage is the chief sign one eye alone may be involved. Pigmentation of the retina and night-blindness may now and then be present. Moreover, new blood-vessels may form in the vitreous, but this rare appearance is not characteristic of kidney disease.

In the discussion that followed the reading of Nettleship's paper the following gentlemen took part, George Carpenter, Gustavus Hartridge, Henry Power, A. Q. Silcock, and R. A. Reeve.

Wernicke, Otto.—On paralysis of latero-version. *Archives of Ophthalmology*, March, 1903.

A man of 30 years, who had suffered from syphilis, manifested several nervous symptoms, as marked in-coordination of the extremities, increased tendon reflexes, diminution of the sense of pain on the right side of the body, etc. Tuberculosis of the lungs existed. V. = ½. Lateral movements of eyes completely abolished. Convergence possible to within about 6 cm. No squint. Fundi normal. No gross defect in visual fields. Colour-vision normal. Some mental symptoms developed, and the patient died twenty-seven days after admission to hospital. At the autopsy, tuberculous foci were found at the upper end of the anterior right central convolution, posterior half of the right occipital lobe, and in the pons.

Michel, J. v.—Clinical contributions to the knowledge of rare affections of the conjunctiva and skin of the Lids. *Archives of Ophthalmology*, September, 1903.

Michel's cases include :—(1) Retention cysts of the sweat glands; (2) Herpes facialis of the lower lid; (3) Eczema impetiginosum necroticum of the eyelids, followed later by a chancre of the conjunctiva of the lower lid; (4) Syphilides of the skin and scleral conjunctiva; and (5) Lues tuberosa serpiginosa of the skin of the lids, face, head, neck, thighs, and forearm.

Gamble, William E.—Double Optic Neuritis complicating Whooping - cough. *Archives of Ophthalmology*, July, 1903.

Gamble, after recounting cases of optic neuritis in whooping, cough by Alexander (*Deutsche Med. Woch.*, 1888, *p.* 204) Jacoby (*New Yorker Med. Woch.*, 1891, *p.* 45), and Callin (*Amer. Journ. Ophthalmology*, 1884, *p.* 219), relates a case of his own in a child, 8 years of age. The attack of whooping cough had been a severe one, and slight double optic papillitis was observed four weeks after the beginning of the illness Gamble gives the following conclusions :—(1) optic neuritis complicating whooping-cough seems to occur most frequently in girls (four cases all girls); (2) it occurs with or without evidence of cerebral complications; (3) vision may or may not be disturbed; (4) prognosis as to sight is good when no cerebral complications exist; (5) that optic neuritis may result from direct action of toxins of pertussis upon the nerve-head.

Loeb, Clarence.—The value of ophthalmic examinations in the differential diagnosis between Typhoid Fever and acute Miliary Tuberculosis. *Archives of Ophthalmology*, September, 1903.

A man, aged 35 years, without tuberculous antecedents (family or personal) was thought by his physicians to be affected with an anomalous form of typhoid fever. Loeb, however, found choroidal tubercles—three in the right eye and two in the left. They lay in the neighbourhood of the optic disc, and some of them developed whilst the patient was under observation. The autopsy revealed a general miliary tuberculosis. One of the choroidal tubercles, examined microscopically, was found to be made up of round and epithelioid cells, but giant-cells were not demonstrated. Tubercle bacilli were present, especially in the caseous portion of the tubercle.

Loeb remarks that tubercles are usually found in the region surrounding the optic disc and the macula lutea. They range in diameter from 0.3mm. to 2.5mm., and to be visible with the ophthalmoscope, must have a diameter of more than 0.6mm. There is a gradual transition from the whitish centre of the tubercle to the normal red of the fundus; a pigment ring is rarely seen. The tubercles may appear at any stage of the disease, and sometimes grow so rapidly as to become ophthalmoscopically visible overnight With regard to the frequency of tubercle of the choroid in general miliary tuberculosis, Loeb quotes the following figures:—Cohnheim, 100%; Bouchert, 10%; Bock, 82.7%; Demme, 21%; Litten, 75%, and Carpenter and Stephenson, 50%. Loeb himself concludes that about 50% may be taken as representing the truth. There are usually submiliary tubercles present in addition to those seen with the ophthalmoscope. These may at any moment grow so rapidly that they may be seen *intra vitam*. A second or even a third examination may demonstrate their presence.

Jessop, Walter H.—Retro-bulbar Neuritis and peculiar appearance of Retinal Vessels. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

In a case of toxic retro-bulbar neuritis, in a man aged 22 years, Jessop noticed certain changes in the retinal vessels, especially in the arteries, namely, increase in number, tortuosity, apparent emptiness, and an almost moniliform appearance. There were, however, no actual hæmorrhages.

Inman, William.—Acute Dacryo-Adenitis. *Royal London Ophthalmic Hospital Reports*, vol. 15, part 4, October, 1903.

After discussing the views of various authors, all of whom hold that this disease is exceedingly rare, Inman appends the notes of ten cases observed during the last two years at the Moorfields Hospital, and comes to the conclusion that the disease is not nearly so uncommon as is generally supposed. The cases were all acute, and Inman has met with none of the chronic variety. They arrange themselves into two groups: (1) those associated with mumps, which are usually bilateral and do not suppurate, and (2) those not connected with mumps, which are usually unilateral, and in these, suppuration may or may not occur. These cases are often mistaken for orbital cellulitis, and not infrequently an incision is made through the lid which fails to liberate pus, but pus a few days later finds its way through the conjunctiva. Resolution not infrequently takes place. Of the 10 cases, 6 occurred in males, and 4 in females. The oldest patient was 37 years, and the youngest three years, although Bock has seen a case at 77 years of age. Nine of the ten cases occurred on the left side. In one instance only was the affection associated with mumps, and here the lacrymal gland suppurated but the parotid did not; possibly the two conditions were independent. Probably most of the cases were due to local infection. The treatment should be carried out on general principles, and the pus evacuated at the earliest possible period. Fomentations should then be applied. Usually the condition rapidly subsides, and the patient recovers.

C. D. M.

Doyne, R. W.—Septic Conjunctivitis. *Lancet*, November 7, 1903.

Doyne states that a peculiar form of acute conjunctivitis, characterised by marked enlargement of the papillæ, lacrymation, and serous discharge, has been prevalent in and about the Oxford district during the last summer. More or less ptosis, tenderness or swelling of the preauricular glands, and constitutional disturbance often accompany the conjunctivitis. The condition is usually confined to one eye. The symptoms suggest to Doyne a septic origin, and he has sometimes thought that he could trace a connection with mangy cats and dogs. In the course of three to eight weeks the affection yields to silver nitrate, copper sulphate, or, better still, to argyrol (30%).

Cohn, Paul.—Total ankyloblepharon from pemphigus resulting in complete cure. (Totales Ankyloblepharon durch Pemphigus mit Ausgang in völlige Heilung.) *Zeitschr. f. Augenheilk.*, November, 1903.

For about a month a Russian child, aged 11 years, had suffered from a disease of the skin characterised by the formation of blebs upon the eyelids, scalp, face, and body. When examined by Paul Cohn, signs of the eruption were to be seen upon the buttocks, cheeks, lips, eyelids, and scalp. The mucous membrane of the mouth was not involved. The right palpebral fissure was wholly obliterated by adhesion of the lids one to the other ; no cilia were visible. The condition as regards the left palpebral fissure was not quite so pronounced. Under ether, the ankyloblepharon was divided and the fissures lengthened. The lower palpebral conjunctiva showed several ulcerated spots, evidently resulting from recent blebs. The eyeballs, however, were intact, and there was no symblepharon. The immediate result of the operation was good, and the child left the hospital on the eighth day. Cohn's paper concludes with references to thirteen more or less similar cases.

Bouvin.— Pemphigus Conjunctivæ. *Ned. Tijdschrift v. Geneeskunde*, No. 17, 1903.

The prognosis of this disease is generally very bad, so that a case in which considerable improvement occurred may be worthy of mention.

G. F. ROCHAT.

Taylor, Lewis H.—A case of acute panophthalmitis, following discission of the capsule. *Trans. American Ophthal. Society*, Vol. X (1903), p. 130.

Taylor removed a cataract from each eye of a patient, aged 36 years. About six weeks after the last operation, he performed discission of the capsule, using Knapp's knife-needle for the purpose. Next day the cornea was cloudy, and there was a muco-purulent discharge from the eye that had been operated upon. Two days later the cornea was yellow ; anterior chamber full of lymph wholly concealing the iris. A couple of days after that the eye had the general appearance of panophthalmitis from gonorrhœal ophthalmia. The eye was enucleated on the seventh day after the discission.

Batten, F. E.—Cerebral Degeneration with symmetrical changes in the Maculæ in two members of a family. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

One sister, at the age of about six years, became spiteful, developed attacks of violent temper, and showed defective sight. When the eyes were examined, there was occasional fine nystagmus, pallor of the optic discs, evidences of old generalised retinitis, and a reddish-black spot, of irregular shape, at each macula. The region immediately around the dark spot was paler than the rest of the fundus. The elder sister of this patient showed mental deterioration and failure of sight when she was four years of age. This was followed by several "fits," and eventually ended in idiocy. The optic discs were pale, and there was in this case, as in the first, considerable pigmentation in the region of the yellow spot. The parents were of English origin; there were seven children in the family; and the mother had had no miscarriages. One child had died from convulsions at 2½ years. The affected children came second and fifth in the family. It may be pointed out that similar macular changes, in two brothers, not associated with mental defect, were reported in 1897 by Rayner D. Batten (see *Trans. Ophth. Society*, Vol. XVII, p. 48).

Hirschberg, J.—A case of defective vision in idiocy. (Ein Fall von Sehstörung bei Idiotie.) *Centralb. f. prak. Augenh*, January, 1904.

The author reports a case which resembles very closely the class of case first described by Waren Tay as amaurotic family idiocy, but which has certain differences. In Tay's cases a fatal issue resulted about the end of the second year of life—there was marked non-development of the cortex cerebri and of the ganglion cell layer of the retina. In the author's case the boy was 15 years of age, of very good physical development, but of distinctly inferior intelligence, and the vision amounted to 0.01. Ophthalmoscopically the maculæ were surrounded by a whitish ring, and the disc was pale. The periphery showed a deposit of fine granular pigment spots—arteries small. A. LEVY.

IV.—MISCELLANEOUS.

Pyle, Walter L.—An interesting case of pigmentary degeneration of the retina (Retinitis pigmentosa). *Trans. American Ophthal. Society*, Vol. X (1903), p. 172.

A man, aged 54 years, suffered from typical retinitis pigmentosa, a disease that had certainly existed since he was eleven years of age. For upwards of forty years the patient had so far surmounted his physical disabilities as to support himself, his mother, and his wife.

Deshusses, M.—Exophthalmic Goitre. Resection of the cervical sympathetic. Rapid death. (Goitre exophtalmique. Résection du sympathique cervical. Mort rapide.) *La Clinique Ophtalmologique*, 25th February, 1903.

Deshusses reports the case of a woman of 41 years, who, without any bad personal or family history, developed progressive symptoms of exophthalmic gôitre after her tenth pregnancy, in which the child was extracted "morcellement." She was treated by Prof. Duret with potassium bromide and with veratrine. Under the influence of these drugs the symptoms slightly abated, but nevertheless the patient's condition was so miserable, owing to attacks of oppression and palpitation on the slightest exertion and to extreme depression of spirits, that Duret excised the superior and middle cervical ganglia and the chain between them on one side. The operation was performed without accident, but "after about two hours the invalid became restless and wished to get up; she felt stifled; the pulse was 160, the respirations short and frequent. An injection was given of 40 centigrams of cafeine, and 15 drops of a 1 per cent. solution of digitalin were administered. But the agitation only became worse; the invalid did not remain quiet, and had to be held down in bed, and the pulse was uncountable. She died at 7 p.m. No autopsy could be made." Finally, the writer discusses the two questions: (1) Was the operation justifiable? (2) What was the cause of death? The first question he answers in the affirmative, because the case was 'desperate' and the operation has not a bad reputation. The explanation of death offered is that interference with the sympathetic of one side led to reflex stimulation of that of the other. No similar case of rapid death after section of the sympathetic is known to the writer of the article.

W. Ernest Thomson.

Trendel, M.—The clinical importance of the lymphatic glands contained in the thickness of the cheek. *Medical Press and Circular*, February 3, 1904.

That lymphatic glands are contained in the thickness of the cheek was first observed by Poncet, of Lyons. There are three groups of these small glands: (1) supra-mandibular; (2) buccinator; and (3) superior maxillary. The last-named group, likely to be of interest to ophthalmic surgeons, is described as "consisting in glands included in the naso-labial fold on a level with the lower border of the orbit at the internal palpebral angle." Enlargement of the cheek glands is generally due to cancer or to tuberculosis, although it is sometimes consequent upon infection from carious teeth, tonsillitis, erysipelas, etc. The adenitis rarely exceeds the size of a pea, or, at most, of a nut. To make sure of finding the glands when enlarged, the exploration should be carried out with one finger inside the mouth. In every case of epithelioma of the face this method should be resorted to, carrying the search into the sub-maxillary and sub-mental zones, as well as into the cheek.

Taylor, James, and Ballance, Charles A.—A case of large blood cyst in the arachnoid space simulating brain tumour; operation; recovery. *Lancet*, August 29, 1903.

A man, 34 years of age, struck the right side of his head with some violence against a stone wall in February, 1902. Some three months later he developed headache, and afterwards mental dulness, difficulty in walking, and weakness of the left arm and leg. These symptoms were followed by optic papillitis, loss of control over the sphincters, and such marked mental signs that the patient was considered to be insane. Upon admission to the National Hospital for the Paralysed and Epileptic, his condition was as under: some loss of memory, swaying gait, exaggeration of the deep reflexes on the left side, bilateral optic papillitis with retinal hæmorrhages, horizontal nystagmus, intermittent headache, and, on percussion, some tenderness over the right frontal region. A diagnosis of cerebral tumour was made, and operation decided upon. On incision of the dura mater over the right frontal region, a tense, fluctuating, pulsating swelling, of a maroon-red colour, was exposed to view. Twelve days later, a temporary ligature having first been placed on the internal carotid artery, the tumour was raised from its bed and removed, leaving a large space between the brain and the bone. It proved to be an arachnoid hæmatoma, measuring 7 inches by 4½ inches by 1½ inch. The patient made a good recovery.

Taylor, James.—A case of Hemicrania with Third Nerve paralysis. *British Journal of Children's Diseases*, January, 1904.

A girl of 13 years had been subject to headache and vomiting since early life. A week before she was seen by Taylor, she found she was unable to open her left eye, and the condition had remained without change. A few days before the onset of the ptosis, the child complained that she saw double, and her mother had noticed a squint. Examination disclosed the existence of ptosis (*see figure**), external strabismus, defective upward, downward, and inward movement of the left eye, and a dilated pupil. Vomiting had been almost continuous since the onset of the ptosis. There had been no former attack of the same kind. The patient left hospital after twenty-three days' detention without a sign of oculo-motor paralysis remaining. Commenting upon the above case, Taylor expresses his opinion that cases of recurrent paralysis of the third nerve with migraine are probably dependent on some lesion in or affecting the third nerve itself. The fact is significant that in all the cases examined after death, some morbid condition, as tumour, exudation, or granulation, has been found to involve the trunk of the third nerve.

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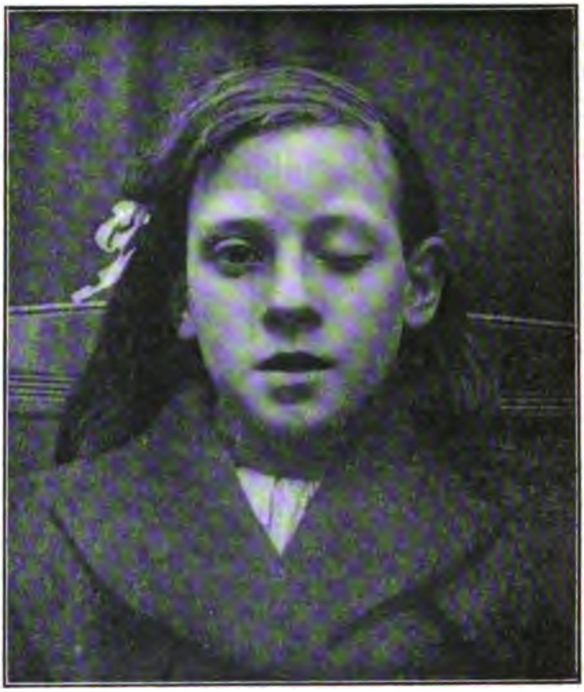
*For the loan of this block we are indebted to the courtesy of the Editor of the *British Journal of Children's Diseases.*



NOTES AND ECHOES.

The Sight-Testing Optician. The Spectacle Makers' Company is plainly bent on the downward road, in spite of protests and warnings from the medical profession and of resignations on the part of various distinguished ophthalmic surgeons, whose names have hitherto graced the livery. Acting upon the report of a special committee, the court have unanimously decided henceforth to hold two examinations, one in general optics and the other in sight-testing. The diploma for sight-testing is to be held subject to regulations similar to those of the present optical diploma, with the additional stipulations, however, that the holder shall refer to a medical practitioner (*a*) all cases in which the optician is not convinced his tests have resulted in an accurate estimate of the refraction—as, for example, in the case of a young eye where a considerable error may be latent; (*b*) all cases presenting muscular or structural abnormalities so marked as to suggest that surgical or medical treatment may be called for; (*c*) all cases in which after correction by lenses the acuteness of vision remains subnormal; and (*d*) all cases presenting any apparent symptom of disease.

What does all this mean when reduced to plain English? First of all, where is the essential direction as to the use of a cycloplegic? It is seldom that a correct estimation of a complicated refractive error can be made without such an aid. Is the sight-testing diplomate to use atropine and other cycloplegics, or is he not? If he is to be allowed to use atropine, he becomes an unqualified medical practitioner—if he is not so permitted, he is incompetent *ipso facto*. Why does the Worshipful Court of Spectacle Makers shirk that crucial point? Surely the matter has been before them long enough. Besides, have they not enjoyed the advantage of having a well-known ophthalmic surgeon's presence as medical examiner for their diploma? By the way, what is the expert examiner's present position? Will he continue a member of the pseudo-medical, diploma-granting City Company, which is bent on converting opticians' shops into spurious medical consulting rooms? Or will he, on the other hand, follow the straightforward course adopted by Mr. Ernest Clarke, of the Central London Ophthalmic Hospital, and of Dr. D. C. Lloyd-Owen, the ophthalmic surgeon of the Birmingham General Hospital, who has each thrown up his membership of the Spectacle Makers' Company? It may be predicted with tolerable certainty that, when all the facts are known, this course of action will be followed by the other medical members of the City Company.

* * * *

Encroachments upon Medical Matters.

This attempt to encroach upon the field of legitimate practice is only one of many that surround us. Instrument makers, electrical, hot air, and massage curers, prescribing chemists, cancer-curers, joint-stock medical companies, and a host of other quacks and parasites who batten on the credulous British public, are all sailing on the same tack. Every now and then the shoe pinches in some fresh place, as here in the case of the sight-testing optician. The medical profession mutters and grumbles; there is a nine days' wonder of heated paragraphs. Time goes on, the intruder shakes down into a firm foothold, and lo, and behold! another source of income has been filched from the pockets of an unbusiness-like and disorganised profession. What is the remedy ? First, a new and drastic Medical Act, clearly defining the limits of medical practice and laying down definite penalties against all trespassers ; secondly, a General Medical Council, representative of the main mass of the medical profession, furnished with full and adequate powers, as in the case of the Incorporated Law Society, to repress all illegal medical practice.

* * * *

Refraction Assistants.

The sublime impudence of the latter-day maker and filler of lenses is simply unspeakable. The London School Board has recognised the importance of ascertaining and remedying the defects of sight in scholars. For the former purpose they have employed half-a-dozen qualified ophthalmic surgeons, although at what must be described as a most inadequate rate of pay. *The Optician and Photographic Trades' Review* now actually suggests that the Board should employ certified opticians. It further hints that instead of qualified refraction assistants, opticians should be employed in the special ophthalmic hospitals or in the ophthalmic departments of the general hospitals. Atropine would have to be widely used to secure trustworthy results when dealing with children. What would be the legal position of these unqualified persons ?

* * * *

The Nettleship Prize.

A brief but interesting little ceremony took place on February 11th at a special General Meeting of the Ophthalmological Society of the United Kingdom. On that occasion the die of the gold medal, established by the friends and pupils of Mr. Edward Nettleship to commemorate that gentleman's services to ophthalmology, was formally presented to the Society by Sir Thomas Barlow, the Chairman of the Committee of Subscribers. On behalf of the Society the die was accepted by the President, Mr. John Tweedy. Readers of the OPHTHALMOSCOPE will remember that some details of the Nettleship Prize were given in our December number. Briefly, the interest of a capital sum of several hundred pounds is to be devoted to the annual or periodical presentation of a gold medal to be bestowed upon that British subject who has done the most scientific ophthalmic work during the few preceding years.

* * * *

The Middlemore Prize.

The only other ophthalmological award of the kind in this country is the Middlemore Prize, the bestowal of which is in the hands of the British Medical Association. It consists of an illuminated certificate with a cheque for £50, and is awarded, under the original deed, for the best essay on improvements in ophthalmic medicine during the previous three years. Wisely, however, a supplemental deed has broadened the scope of the essay, so as to include all and every department of ophthalmic medicine and surgery. The first recipient of this honour was Mr. W. Adams Frost in 1882, and the last, Mr. Ernest Maddox in 1900. Finally, occasional prizes in ophthalmological subjects are offered by the Royal Colleges of Surgeons of England, Edinburgh, and Ireland.

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Colour-Blindness.

A document of a most interesting and practical kind was presented to the Ophthalmological Society of the United Kingdom on January 28th last. It was the preliminary report of a Committee (appointed by the Society on December 11th, 1902) dealing with the subject of colour-vision. The Committee was a strong one, as will be immediately apparent when it is stated that its members were Mr. W. Adams Frost (Chairman), Mr. E. Nettleship, Mr. W. A. Brailey, Mr. William Lang, and Mr. C. Devereux Marshall (Secretary). It was appointed to examine into Dr. Edridge-Green's contention, namely, that the Holmgren wool test was inadequate to detect certain forms of colour-blindness. The Committee state that, used in the proper way, Holmgren's test is sufficient to detect a large proportion of cases of colour-blindness, especially when the defect is of such a kind as to render its possessors liable to make mistakes in coloured signal lights. At the same time (and this is the point) the Committee agree with Dr. Edridge-Green in believing that certain cases cannot be detected by Holmgren's test, however skilfully applied, and that others who satisfy Holmgren's test of pale green and hence would usually be passed as normal, are exposed by the careful use of Holmgren's second test, a rose colour. Moreover, the Committee agree with Dr. Edridge-Green in thinking that some at least of the cases just referred to, when tried with the signal lantern, make mistakes that at once disqualify them. Another kind of defective colour-vision is that caused by shortening of one or other end of the spectrum, *i.e.*, inability to perceive some of the rays of lowest refrangibility at the red end or of highest at the violet end. Shortening of the violet end, when not accompanied by any other defect of colour-vision, is important from a practical standpoint only when violet or purple signal lights are used. Shortening of the red end, however, is of more consequence. It is usually combined with defective colour difference perception, but even when it exists alone it will, if it reach a certain degree, render its subject unsafe as a signal reader by hindering the perception of red at a distance or when viewed through a haze, which only allows the passage of rays of low refrangibility. The Committee purpose to issue a further report at some future date.

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"Entre Aveugles."

In reviewing Dr. Émile Javal's *Entre Aveugles* last month we expressed a hope that the book might shortly be rendered available for British readers. We learn with pleasure, therefore, that Dr. W. Ernest Thomson, of Glasgow, has secured the English and American rights, and will issue a translation ere long. The difficulties of the title have been got over in an ingenious way by calling the translation "The Blind Man's World."

* * * *

"Ophthalmic Science and Practice."

A third edition of Mr. Henry Juler's "Ophthalmic Science and Practice" has recently been issued from the press. This old favourite is now a portly volume of 733 pages, and includes the novel feature of many plates to illustrate the normal and pathological histology of the eye.

* * * *

Mr. W. T. Lister.

Congratulations to Mr. W. T. Lister, who has recently been appointed assistant surgeon to the Moorfields Hospital, London, E.C.

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THE
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A MONTHLY REVIEW OF CURRENT OPHTHALMOLOGY.

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ORIGINAL COMMUNICATIONS.

THE MIDDLEMORE LECTURE, 1903.

BACTERIAL DISEASES OF THE CONJUNCTIVA.

By JAMESON EVANS, M.D., F.R.C.S.,
SURGEON TO THE BIRMINGHAM AND MIDLAND EYE HOSPITAL.

Our knowledge of the bacteriology of the conjunctiva in health and disease is as yet not very exact. Much work has already been done in this direction, but a large amount of it requires further sifting and revision before it can be included in the category of established facts.

The conjunctival sac is conveniently situated for making bacteriological investigations, but it is also peculiarly adapted for the reception of numberless microbes from the air and from the nose and neighbouring cavities. These bacteria very often bear no relation to diseases of the eye and they complicate and vitiate the results of bacteriological investigations. For this reason it is often impossible to tell which organism is at the root of a certain disease without making experimental inoculations of pure cultures of the isolated organisms. For clinical work, however (as opposed to research work) a very limited outfit will serve for all practical purposes. The following, with a good microscope and oil immersion lens, is a good selection to have, and will be found of considerable service in the diagnosis of conjunctival diseases :—

1. Spirit lamp.
2. Slides and cover glasses.
3. Platinum loop.
4. A few small pillboxes.
5. Filter papers.
6. Stains and reagents.
    - (*a*) Methylene or Thionin Blue.
    - (*b*) Carbol-Gentian Violet.
    - (*c*) Gram's differential solution.
    - (*d*) Bismarck brown (Vesuvine).
    - (*e*) Methylated spirit or absolute alcohol.
    - (*f*) Neisser's stain.
    - (*g*) Carbol Fuchsine.
    - (*h*) 20% sulphuric acid.
    - (*i*) Xylol Balsam.
    - (*j*) Cedar oil.

If further investigation is necessary :—

7. Culture tubes of Agar Agar, Blood Serum, Blood Agar, and Gelatine.

With such an outfit, a ready diagnosis can be made of the Koch-Weeks' Bacillus, Morax-Axenfeld Bacillus, Pneumococcus, Gonococcus, Staphylococcus, Streptococcus, Klebs-Loeffler Bacillus (with a fair degree of certainty), Tubercle Bacillus, and the Xerosis Bacillus. Make at least three films on cover glasses or slides by drawing the platinum loop (previously brought to a glow in the spirit lamp and allowed to cool) along the lower conjunctival fornix, or wherever secretion accumulates, and spreading the adherent matter on the cover glass or slide. Let the film dry and then pass it two or three times through the flame to fix it. Stain one with methylene blue or dilute fuchsin for two or three minutes and the other by Gram's method. The third acts as a reserve, or can be used for special stains—*e.g.*, Neisser's. These organisms represent the bacteria most likely to be met with in the eye, and if organisms other than these are met with, further investigation must be carried out by means of cultures and experimental inoculations.

The bacterial origin of many diseases of the conjunctiva is already well established. I propose now to consider only those which have a fair claim to be considered as bacterial diseases. These include:—

1. Catarrhal conjunctivitis.
2. Gonorrhœal conjunctivitis.
3. Diphtheritic conjunctivitis.
4. Tubercular conjunctivitis.

Other diseases, *e.g.*, trachoma and possibly xerosis, have been regarded as, and, in all probability are, of bacterial origin, but as the specific organisms have not been definitely isolated, I shall not stop to discuss them.

The practical importance of bacterial diseases of the conjunctiva is shown by the fact that they formed 10 % of all cases treated at this hospital last year, and if minor accidents ("foreign bodies") and errors of refraction are excluded from the total, they amount to 25 % of eye diseases attended to.

I will take first the most common of all eye diseases, *viz.* :—

CATARRHAL CONJUNCTIVITIS which is also known as contagious ophthalmia, and popularly as "blight" and "pink eye". It is usual to classify this disease into acute, subacute and chronic. For clinical purposes this, no doubt, has some advantages, but such a classification has no ætiological basis. Experience has shown that the same microbe may give rise to any of these clinical types, and clinically similar appearances may be due to distinctly different organisms. Further, a subacute or chronic case may, by contamination of another conjunctiva, give rise to the acute form and *vice versâ*. It has also been advanced that a diplobacillary conjunctivitis may be transformed into a Week's bacillus conjunctivitis (Stephenson).

The symptoms of this disease are briefly :—

1. Subjective sensations, *e.g.*, feeling of grit in the eyes, photophobia, gluing of the lids together by secretion, and occasional disturbance of vision owing to the discharge adhering to the cornea.
2. Increased and usually altered secretion.
3. Changed appearance of the conjunctiva, varying from slight injection or velvety thickening to the formation of false membrane.

In the *severer* forms the injection and swelling of the conjunctiva are pronounced, and invade the bulbar as well as the palpebral conjunctiva, and small hæmorrhages into the conjunctival tissues may be noticeable. The lids are often swollen and red. The secretion is at first mucous or muco-purulent, but later becomes more purulent than mucous. The eyes are hot and heavy and feel as though full of sand.

There is no marked degree of photophobia unless there are corneal or iridic complications. When the secretion adheres to the cornea, it gives rise to dimness of vision and to coloured rings round gaslights.

In the *mild* form, the redness is confined to the palpebral conjunctiva, caruncle, the margin or angles of the lids (angular conjunctivitis). The secretion is barely visible during the day, but in the morning it causes a stickiness of the lids which indicates its presence. The subjective symptoms are slight and troublesome only in artificial light.

Complications are rare in this disease, but small ulcers of the cornea (catarrhal ulcers) may occur, and very occasionally iritis may be associated with them.

ÆTIOLOGY: The following organisms may be concerned in the production of this disease:—

1. Koch-Weeks' bacillus.
2. Pneumococcus of Fraenkel.
3. Morax-Axenfeld diplobacillus.
4. Staphylococcus.
5. Streptococcus.

I propose to discuss each of these organisms as to:—

(*a*) Morphological characters.
(*b*) Methods of staining and cultivation.
(*c*) Evidence of their relation to the disease.

1. THE KOCH-WEEKS' BACILLUS is a small bacillus resembling that of influenza. It varies from 1μ to 2μ in length and is 0.25μ in thickness. It is rounded, and generally very slightly swollen at the ends. In agar cultures the bacilli may be arranged in long threads in which the division lines are very indistinctly marked.

It stains well with watery aniline dyes, *e.g.*, methylene blue, gentian violet, and fuchsin though not so deeply as cocci and the bacilli generally met with. It does not retain the stain in Gram's method.

It grows best on serum agar at 35° C., but it will also grow on agar ($\frac{1}{3}$ to $\frac{1}{2}$%). After 48 hours or so, small, pearly, glistening growths appear on the surface of the agar, and if the medium has been stabbed, a slight haziness appears along the track of the needle. Degeneration soon sets in, and at the end of a month the bacilli have disappeared. Perfectly pure cultures are difficult to get, owing to the almost invariable presence of a vigorously growing but inert clubbed bacillus.

Inoculation experiments with growths of this bacillus (mixed with the clubbed bacillus which has been shown to be inert) on the human conjunctiva produced an acute catarrhal conjunctivitis similar to that from which the cultivation was obtained.

The disease has an incubation period of 36 to 48 hours. It has been found that the number of bacilli present on a film varies according to the acuteness of the conjunctivitis. A large number of bacilli in a preparation indicates a severe attack. In the very severe cases, suggestive of purulent ophthalmia, and especially where there is a membrane formation on the conjunctiva, it is associated with the presence of the streptococcus longus (Stephenson).

Weeks considered that the presence of a yellowish discharge, accumulating in thick masses at the inner canthus, was characteristic of the conjunctivitis due to this bacillus. The bacilli can be found as long as the yellow discharge persists. The Weeks' bacillus is probably the most frequent cause of acute epidemic contagious ophthalmia in this country.

2. THE PNEUMOCOCCUS OF FRAENKEL is a small oval coccus about 1μ long, generally arranged in pairs—diplococcus —but very often also in chains of four to ten. The free ends are often pointed like a lancet, hence the name "diplococcus lanceolatus" which has been applied to it. It is often surrounded by a capsule. It stains with weak aniline dyes, *e.g.*, methylene blue and carbol-fuchsin. It retains the stain in Gram's method.

The capsules, which are only seen in film preparations, and not in organisms grown on artificial media, appear as unstained halos by ordinary methods. They may be stained by bringing the carbol-methylene blue up to a high temperature instead of using it cold, as recommended by Stephenson, or by Johne's plan*, or by the method of Welch and Muir.

It grows at 37° C. on :—

1. Alkaline agar.
2. Blood serum or blood agar.

Its growth is not vigorous. In stroke cultures it appears as a translucent pellicle along the track with isolated colonies at its margins. In stab cultures at 22° C. it appears as a row of minute points, which remain of small size and do not liquefy the jelly. The cultures degenerate after a few days and lose their pathogenic activity with age. No capsules are developed in any of the artificial media.

Experimental conjunctivitis has been produced by inoculation of the human conjunctiva with pure cultures of the pneumococcus (Gifford).

---

*Johne's Plan for Capsules of Pneumococcus :—

1. Stain in 2 per cent. (watery) gentian violet held over the flame until steam arises.
2. Wash with distilled water.
3. Immerse in 2 per cent. acetic acid for few seconds.
4. Wash.
5. Mount in a drop of sterile water.

Clinically, there does not seem to be any marked or striking feature by which pneumococcus conjunctivitis can be distinguished from acute or subacute conjunctivitis due to other organisms. In some cases the disease appears as an acute and contagious form, giving rise to epidemics—generally among children—whilst at others it is mild and appears not to be contagious. Gasparini and Stephenson consider that the appearance of a pellicle of fibrin on the palpebral conjunctiva is characteristic of pneumococcus conjunctivitis.

(*To be continued.*)

A CASE OF HYDATID CYST OF THE ORBIT.

By

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The patient in whom this rare condition was seen was a child Ethel W., aged 5 years, who had lived in the country near London all her life. She was first seen by me at the Moorfields Hospital in October, 1902. The history was that the right eye had turned upwards for about eighteen months, but that it had become more displaced lately. She was admitted on October 7th and the condition then was as follows: between the right eyeball and the inferior margin of the orbital cavity, with its most prominent part at the junction of the outer fifth with the inner four-fifths of the inferior orbital margin, is situated a tumour. The tumour, as much of it as can be felt, is of the size of a muscatel-grape, and of about the same consistency and shape; it appears to be fluctuating, but owing to the yielding nature of the orbital tissues, this point is difficult to be certain about. The displacement of the eyeball has been caused by the pressure of the tumour in a direction inwards and upwards; not only however is the eye on a higher plane than on the left side, but it is apparently rotated slightly upwards and inwards. The movements of the globe are free although less than normal, but the outward and downward movements are those which are apparently the most restricted. The right eye appears to be healthy, and the pupil is active. The amount of vision is difficult to estimate, although a penny which is easily recognised with the left eye, is apparently not so with the right. The left eye is normal.

On October 8th an incision was made through the lower lid over the tumour, and a fluctuating swelling exposed. An attempt to remove the growth in its sac resulted in the rupture of the capsule, followed by collapse. Clear fluid escaped. The remaining sac was easily shelled out; it was white and had no adhesions. The wound healed, and the child was discharged a week later. On November 6th the eye had returned to its normal level; there was, however, slight deviation inwards and upwards. The vision of the right eye appeared to be good. There was no evidence of hepatic disease or enlargement.

On pathological examination the cyst was found to be about 1½ inches in diameter; its wall was thick, pearly white, and smooth on both surfaces. It has all the characteristics of a hydatid cyst. There were no echinococcus heads in it. On microscopic examination, the cyst wall showed typical lamination.

A message was received from the child's father, dated January 31, 1904, stating that the child was quite well and had suffered no inconvenience since the operation.

Remarks.—This case resembles most of the others that have been recorded in the fact that the cyst appears to be sterile and does not contain daughter cysts or scolices. Lawford (1) explains this as being due to the conditions under which the cyst grows. "Situated in a cavity with bony walls except in front, their increase in size leads at an early stage to so much displacement of the eyeball, that surgical interference becomes necessary before the parasite has begun to proliferate." Leuckart (2) states that "It has been repeatedly observed that in certain localities the echinococci are much more frequently sterile than in others. It is also well known that the presence of heads and hooklets is noted in only a small minority of cases of human echinococci."

Published records show that a large number of these cases occur in children, and they appear but rarely in persons above 40 years of age.

The length of time that these cases take to develop show considerable variations. In cases recorded by McGillivray, Rockliffe, and Lawson, the symptoms had been present for from six to eight years; while Weeks had a case in which eight days only had elapsed from the onset of the symptoms before surgical interference was adopted.

The symptoms are chiefly to be ascribed to a mechanical cause, *viz.*: a tense cyst, growing in a more or less closed cavity, which, of course, caused displacement of its contents, and if left long enough, optic neuritis and œdema of the fundus will be the result. In the present instance nothing of the sort occurred, and even if the vision were affected, which is very doubtful, it soon recovered after the removal of the cyst.

With regard to treatment, although puncture of the cyst has been resorted to in many instances, yet it never does much good, as the cyst simply fills up again. Extirpation of the entire cyst is the only operation that should be attempted. In former times incision with drainage of the sac, leading to suppuration and obliteration, has been recommended, but this method may be regarded as belonging to a bygone age, and no modern surgeon would be inclined to risk his patient's life by producing suppuration anywhere, while everyone knows the great danger that lurks in a suppurating wound of the orbit. The facility with which the operation of extirpation can be done is remarkable, for provided that inflammation has not taken place, the cyst shells out with the greatest possible ease, after it has been emptied. One has only then to grasp it with forceps, and it at once comes away, as if it had never contracted adhesions at all. The sooner the cyst is removed the better, as nothing but damage, more or less permanent, can result to the delicate tissues of the orbit if it be left.

These cases are so rarely seen that it falls to the lot of but few surgeons to operate upon more than one or two in the course of a lifetime. The text-books do but little more than give passing mention that such a thing may occur, and many do even less than this and do not refer to them at all.

When Lawford's excellent and exhaustive paper was published in 1895, he was unable to find reference to more than 45 other cases that had been published. Since then others have been seen, and (3) Cabaut has collected 75 cases, 35 of which occurred in Argentina, but the condition is sufficiently uncommon to be reckoned among the rarities of surgery. There is one other situation however, in which it is still less common to find the cyst, and that is in the eyeball itself. Only three cases of this condition are known to me, and there exists some doubt with regard to the nature of the first two. One was published by Hill Griffith in Volume XVII of the *Transactions of the Ophthalmological Society*; another case was published by Gescheidt in 1833 in *von Ammon's Zeitschrift f. die Ophth.*, Bd. III, page 437; and the third was recorded by Louis Werner, of Dublin, in an exhaustive paper published in Vol. XXIII. of the *Transactions of the Ophthalmological Society* (see OPHTHALMOSCOPE, Vol. I (1903), p. 226).

These cases of parasitic cysts in and about the eye are of sufficient rarity to justify their publication, and one cannot but help being struck with the successful results sometimes obtained through treating them on general surgical principles.

REFERENCES.

(1) Lawford.—*Trans. Ophthal. Society*, Vol. XV (1895), p. 167.
(2) Leuckart.—*Parasites in man*, 1866.
(3) Cabaut.—*Woch. f. Therapie und Hygiene des Auges*, February 25, 1904.
(For abstract see page 147 of the present number of OPHTHALMOSCOPE.)

ETHYL CHLORIDE AS A GENERAL ANÆSTHETIC IN EYE WORK.

By
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Few ophthalmic surgeons appear yet to realise what an extremely valuable general anæsthetic they possess in ethyl chloride, an agent now widely employed in general surgery. Dr. Camille Fromaget (*Annales d'oculistique*, 1901, p. 196) appears to be the only author who has written upon the subject. He has given the anæsthetic in more than one hundred cases without mishap. The ethyl chloride was administered by spraying the liquid upon a piece of cotton wool, enclosed in a cone made from a handkerchief having paper between its folds. Fromaget condemns more formal apparatus in no measured terms.

Ethyl chloride has several distinct advantages over all the older anæsthetics. For example, it is easy to give, anæsthesia is quickly induced, and its effects pass away rapidly. Cyanosis or jactitation, such as often occurs with nitrous oxide, is not seen with ethyl chloride. Vomiting is not a very common complication, and seems to occur only when an over-dose of the anæsthetic has been administered. Lastly, no death has yet been reported in this country from ethyl chloride. Seitz (*Lancet*, April, 1903, *p.* 953), who ranks ethyl chloride next to nitrous oxide in point of safety, gives the death-rate as 1 in 16,000 administrations.

From an ophthalmic point of view, ethyl chloride is an almost ideal anæsthetic. The writer has employed it on upwards of two hundred occasions in both children and adults, and the farther his experience extends, the greater is his appreciation of the new agent.

For what purposes is ethyl chloride especially useful in eye work ? In the first place, for examinations such as must often be made in the out-patient department, more particularly of children's eyes. In those common and distressing cases of intense photophobia in young children, due to eczematous keratitis, the anæsthetic acts admirably, administration, examination, and recovery being a matter of a few minutes only—five at the most, a most important practical point in a busy out-patient room. The writer has sometimes thought, too, that he could trace a connection between the giving of the ethyl chloride and the bettering of the photophobia, but that would naturally apply also to anæsthetics other than the one under discussion. To facilitate examination of the eye with the ophthalmoscope in refractory children the agent is most useful. The unruly child is simply taken into the nurse's arms, placed in a convenient position with regard to the lamp, and the anæsthetic is administered. The period of insensibility is quite long enough, even with a single dose, to allow one to examine both fundi with the ophthalmoscope, and even, if necessary, to introduce a speculum, and to steady the eyeball with fixation-forceps. Another field for the employment of ethyl chloride lies in the examination of the cornea in patients suffering from gonorrhœal ophthalmia. The parts are then so exquisitely painful as to render a complete investigation without a general anæsthetic almost a practical impossibility. Yet it is obviously a matter of prime importance to ascertain whether the cornea is or is not ulcerated. With regard to the performance of operations under ethyl chloride, any one of the minor procedures may be undertaken. Thus, the writer has passed lacrymal probes, opened abscesses, extirpated Meibomian cysts, slit the outer canthus, " expressed " the conjunctiva, tapped the aqueous humour, cauterised corneal ulcers, punctured the vitreous, needled the lens and so-called " secondary cataracts," and divided the recti muscles under its influence. Of the larger operations, he has eviscerated and removed the eyeball under ethyl chloride anæsthesia. In brief, from a purely practical standpoint, he believes the new anæsthetic to be speedy, safe, and almost free from unpleasant complications, and to be eminently suited for such examinations of, or operations on, the eye as do not occupy much time. Lastly, he would emphasise the several facts that ethyl chloride is easy to give, pleasant to take, not expensive, and the apparatus is neither cumbersome nor complicated. As to the last point, a most excellent and economical inhaler has recently been introduced by Messrs Duncan, Flockhart, & Co., of Edinburgh, under the name of the "Simplex Inhaler."

SYDNEY STEPHENSON.

There can be no question but that the introduction of ethyl chloride as a general anæsthetic will prove a great boon in all branches of surgery which include minor operations, and of these none is more important than ophthalmic surgery.

The surgery of the eye and eyelids includes many operations which can be performed with an available anæsthesia not exceeding two minutes in duration—cases in which deep anæsthesia is induced, the mask removed, and the operation performed without any further administration.

It is for this class of case that ethyl chloride is so admirably adapted, by reason of (1) its rapid induction, (2) the quiet type of anæsthesia induced, (3) the ease and safety with which it may be given to patients of all ages and all types, (4) its comparative freedom from distressing after-effects, and (5) the absence of unpleasant odour in the room.

Take, for example, a single type of case from these enumerated by Mr. Stephenson, *viz.*, the extirpation of a Meibomian cyst from the lid of a nervous and fractious child. Gas, gas and oxygen, or gas and ether are unsuitable anæsthetics for this kind of operation, and until the introduction of ethyl chloride there was no alternative to the administration of chloroform. Now, in comparing the use of chloroform and ethyl chloride for this particular class of case it is important to bear in mind that the induction of anæsthesia by chloroform presents exactly the same dangers when given for a minor as for a major operation, and it must be given in the same way and with the same care; much time is often unnecessarily wasted, and the patient is subjected to a risk which is not warranted by the short space of anæsthesia which is required.

In the case of ethyl chloride a single dose is administered, which will certainly within a few seconds induce the necessary anæsthesia, but which is not sufficient to kill. The type of narcosis induced is as quiet and as satisfactory in every way as that of chloroform, and after-effects are either altogether absent or are much more transient than those produced by chloroform.

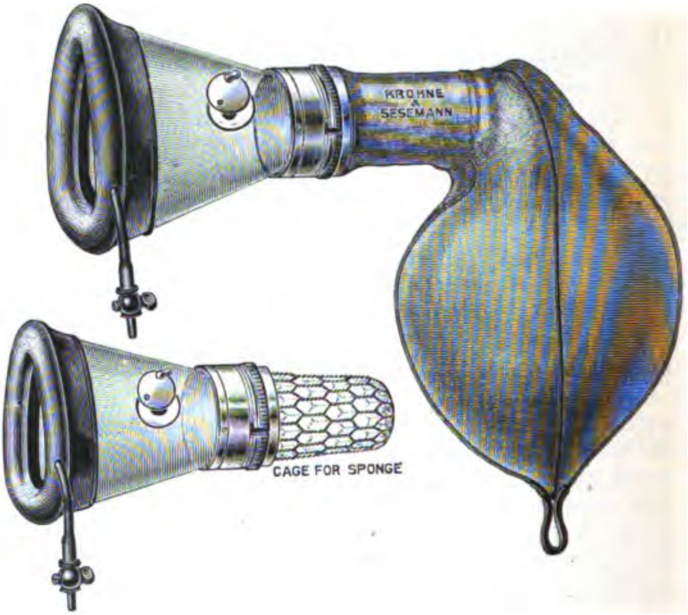
If unforeseen difficulties in the operation occur, it is easy to administer more ethyl chloride or to continue the anæsthesia by means of chloroform.

The rapidity with which anæsthesia can be induced with ethyl chloride is equally striking in the case of adults, even in those of powerful build and of alcoholic tendencies, and for this reason it is exceedingly useful as a preliminary to chloroform for operations of longer duration.

There are several varieties of ethyl chloride in use, but none is better than that made by Messrs. Duncan and Flockhart, of Edinburgh, and called by them "Chloryl Anæsthetic," or the Kélène of the *Société Chemique des Usines du Rhône*, Lyons, France.*

The dose required for the induction of anæsthesia varies according to the age and type of the patient. In a young child complete anæsthesia can be rapidly induced with from 2 cc. to 3 cc., whereas to produce the same effect in the same time in the case of a powerful man 6 cc. to 7 cc. should be used in one dose.

As regards apparatus, the best and simplest is the slightly modified Ormsby's ether inhaler, made by Messrs. Krohne and Sesemann, of which a sketch is shown.



This inhaler has a metal collar which can be adapted to masks of varying sizes; and these masks are made rather deeper than those of the ordinary type, so that the sponge is at some distance from the patient's nose, a precaution which in the author's hands seems entirely to prevent any feeling of suffocation.

The actual administration with this form of apparatus is very simple. The necessary dose is sprayed on to the sponge, the mask is applied closely to the face, and one inspiration allowed with the air-slot open; this is then closed and no further air admitted until anæsthesia is complete, as shown by snoring respiration, insensitive corneæ, and flaccid limbs.

J. H. CHALDECOTT.

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* **English Agents: R. W. Greeff and Co., 20, Eastcheap, London, E.C.**

CLINICAL, PATHOLOGICAL, AND THERAPEUTICAL MEMORANDA.

CONTINUED PARALYSIS OF ACCOMMODATION.

By HAROLD B. GRIMSDALE, M.B., F.R.C.S.,
ASSISTANT OPHTHALMIC SURGEON ST. GEORGE'S HOSPITAL, AND ASSISTANT SURGEON ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.

In the January number of the OPHTHALMOSCOPE, Mr. Sydney Stephenson asks for cases of continued paralysis of accommodation other than those post-diphtheritic in origin.

The following is a case in point: K. D., a schoolboy, aged 11 years, was brought to me in January, 1903, with a history that he had been unable to read his lessons for some weeks. As he was obviously hypermetropic, I examined him under atropine, and found in each eye an error amounting to + 4.0 D, with which connection the visual acuity was normal at a distance. I ordered him glasses, and thought no more of the matter.

In March, however, he was again brought to the hospital for the same reason, *i.e.*, that he was unable to read. I tested his acuity at a distance, and found it still $\frac{6}{6}$, but in reading he could only see Sn. 0.1 at 13 inches: with + 7.0 D., however, he could read Sn. 0.3 easily.

The pupils were active, but the reaction to convergence was perhaps a little less than normal.

The parents were questioned as to any previous attack of diphtheria or other fever, but repeated inquiry could elicit no information on those points.

The boy's previous history had been entirely uneventful. Thinking that there might be some element of neuromimesis or malingering, I again and again examined him, but always with the same results, although I tried to catch him tripping in every way.

The visual fields for white showed no sign of contraction, and there was no abnormal variation of the colour fields. There seemed, then no evidence of hysteria or of deceit.

Dr. Risien Russell had the kindness to overhaul the boy for me, but could find nothing which would throw any light on the matter. The central nervous system showed no change, and Dr. Russell agreed with me, as a result of his examination, that there was no evidence whatever as to the cause of the affection.

I have seen the boy recently, more than a year after the first observation, and there is no change in the condition. V. A. in each eye is $\frac{6}{6}$ with + 4.0 D. and 0.3 Sn. cannot be read at 13 inches without + 7.0 D.

A METHOD OF UTILISING THE EYELIDS TO IMPROVE VISION TEMPORARILY IN SOME CASES OF AMETROPIA.

By

E. DONALDSON,

SURGEON TO THE LONDONDERRY EYE, EAR, AND THROAT HOSPITAL.

The external coats of the eye, except in very rare conditions, yield a little on pressure, and for every change in the antero-posterior diameter of 0·3mm., the refraction is altered by 1D. These facts lie at the root of the following observations.

The method described below I learned from a patient, and it is a good instance of the devices which patients employ to overcome their disabilities. A boy, aged 17 years, with a myopia of one and a half dioptres, showed me that he could improve his distant vision by putting his finger over the external canthus and drawing the eyelids outwards. This observation I have abundantly confirmed. At first I thought that the improvement was due to the cutting off of diffusion circles by the upper eyelid, but Mr. W. M. Beaumont kindly showed me that pressure was the chief cause in operation (see *Lancet*, vol. ii., 1903, p. 1192). Since I read Mr. Beaumont's paper in the *Ophthalmic Review* for August, 1900, I have made some observations, and found that I had overrated the advantage gained in ametropia by cutting off diffusion circles by the eyelids.

Not only in low degrees of myopia is this method of stretching the lids by the finger useful, but also in astigmatism "against the rule," whether hypermetropic or myopic. By the stretching of the lids the horizontal meridian of the cornea can be flattened, and the improvement in vision in this form of astigmatism is considerable. Anyone by making himself astigmatic by a cylindrical lens can verify this observation. In hypermetropia and in astigmatism "with the rule" stretching the lids is worse than useless.

It may be that this method will prove not merely of theoretical interest, but of some practical value also when put in use in suitable cases, and when lenses are not at hand and a momentary glance with improved vision is desirable. Myopes of low degree and patients with astigmatism "against the rule" will, in my opinion, find the little manœuvre above described much more serviceable to them than approximation of the eyelids, or tilting of the head to one side. The correction, however, leaves something to be desired, chiefly because the lid pressure produces a certain amount of irregular astigmatism of the cornea, as shown by the monocular diplopia accompanying it.

CURRENT LITERATURE.

NOTE.—Communications of which the titles only are given either contain nothing new or else do not lend themselves to abstract.

I.—ANATOMY, PHYSIOLOGY, PATHOLOGY, AND BACTERIOLOGY.

Sala, P.—Upon changes in the ciliary epithelium in poisoning by naphthaline. (Ueber Veränderungen an den Ciliarepithelien bei Naphthalinvergiftung.) *Klin. Monatsbl. f. Augenheilkunde*, J. XLI (1903), Bd. I., p. 1.

Edridge-Green, F. W.—The physical aspects of a theory of Colour-Vision. *Ophthalmic Record*, February, 1903.

Hess, C.—On congenital cysts of the Eyeball and their development. *Archives of Ophthalmology*, July, 1903.

Paterson, J. V.—Glaucoma and the glaucoma theories. *Medical Press and Circular*, February 17th, 1904.

After describing and criticising the various theories of glaucoma, Paterson points out that there exist two great bars to progress along experimental and pathological lines, namely, (*a*) that attempts to produce the disease artificially in animals have met with little success, and (*b*) that affected eyes are seldom removed early in the progress of the malady. The author lays stress on the frequency with which chronic glaucoma is associated with general vascular diseases, and thinks that a careful examination of the circulatory system by modern instruments for investigating blood pressure may throw light on the pathology of the disease.

Goldzieher, W.—Upon congenital Cryptophthalmus. (Zur Lehre vom Kryptophthalmus congenitus.) *Centralbl. f. prak. Augenheilk.*, August, 1903.

A well-developed child, aged ten years, suffering from bilateral cryptophthalmus, fell under Goldzieher's observation. An account of the case and certain general remarks upon the condition are incorporated in the present communication. The parts presented the following appearance : the skin passed uninterruptedly from the forehead to the cheek, without showing any indication of eyebrows. A round mass, about the size of a cherry, evidently representing a rudimentary eyeball, could be felt beneath the skin, but it could not be ascertained for certain whether the eyes were capable of any sensation of light, although when a strong ray was caused to fall on the bridge of skin, some twitching was observed. Towards the outer part of the lower margin of the orbit there existed beneath the skin on both sides a soft mass (perhaps a cyst or a lipoma), not continuous with the rudimentary eyeball. There was a smooth tuft of hair reaching on either side from the outer angle of the orbit to the temporal region, where it became continuous with the hair of the head. Skull normal. The nose looked like one formed by a plastic operation, and the nostrils were uncommonly narrow, a remark that applied also to the external auditory meatus. The remarkable point about the case lay in the fact that when the child cried, the bridge of skin bulged forwards until tears ran from the nose, when it resumed its normal aspect. From this the author argues that the lacrymal glands were present and active, and that the nasal ducts had a subcutaneous opening whereby the tears were promptly carried away. He also surmises that the conjunctival sac was not wholly absent. As regards the pathogeny of cryptophthalmus, Goldzieher thinks that intra-uterine inflammation must lie at the root of the changes in the eyeball, since no arrest of development could account for the cicatricial tissue and various adhesions that have been found in these cases. Could the ulceration of the superficial tissues of the eyeball account for the absence of eyelids? This question is answered by Goldzieher in the following way: in human beings the formation of the lids commences in the second month. In the third month the cornea is already covered by the lid processes, the adjacent free margins of which become adherent, an adhesion that continues until the seventh month. At the third month, the formation of a conjunctival sac has already taken place, but the eyelashes of the tarsus and the Meibomian glands have only commenced to differentiate, and their formation is complete only when the lids have ceased to adhere. Let it be taken for granted that at the time the conjunctival tract is forming, an ulcerative process destroys the superficial tissues of the eyeball, whereby a considerable loss of substance ensues, which leads to adhesion of the raw surfaces and of the skin covering them. In consequence of these adhesions the formation of the conjunctival tract must cease, since inseparable bands of scar tissue have formed between the eyeball and its cutaneous covering. Inasmuch as the cornea has, so to speak, come to grief, the organs of the lid fail to develop, a fact demonstrated by all cases of cryptophthalmus that have been investigated. Tarsus, Meibomian glands, and cilia failing, the globe is covered by a flap of skin, and not by lids. Further, the embryological impetus to the separation of the adherent lids is wanting, which arises only when the edges of the lids are fully formed. This view, according to Goldzieher, fully explains not only the absence of lids but also the undifferentiated condition of the skin-covering in cases of cryptophthalmus. ANNIE T. BARNARD.

Verhoeff, F. H.—Some Remarks on the use of Mallory's Phosphotungstic Acid Hæmatoxylin and a Note on the Musculus Papillæ Optici of Nikolai. *Royal London Ophthalmic Hospital Reports*, vol. 15, part 4, October, 1903.

This method was brought forward as a differential stain for the neurolgia of the central nervous system, a purpose for which it was probably unexcelled. The present writer has found it of great value also for staining sections of the eye, not only for neurolgia but for other tissues also. The method of fixation has been modified, but for the details of this useful means of staining the original paper must be consulted.

The cells of the disc recently described by Nikolai as forming a musculus papilli optici are deeply stained by this method, and the structure is so well brought out that it renders the view that they are smooth muscular fibres improbable. It seems most likely that they are neurolgia cells, but in a less highly differential form than those of the optic nerve proper. It seems more than probable that the cells are modified spongioblasts, and closely related to Muller's fibres. C. D. M.

Sulzer.—Experimental study of the sight of astigmatics. (Etude expérimentale de la vision des Astigmiques.) *Annales d'oculistique*, T. CXXIX (1903), p. 86.

Scott, Kenneth.—The practical testing of colour perception. (L'essai pratique pour la perception des couleurs.) *Annales d'oculistique*, T. CXXIX (1903), p. 269.

Peschel, Max.—On the theory of the Retraction of the Eye. (Zur Theorie der Retraction des Auges.) *Centralb. f. prak. Augenh.*, January, 1904.

In some of the cases of congenital defects in the movement of the eyeballs recently reported there was noticed a retraction of the eyeball into the orbit when certain movements were attempted; and certain authors (Bietti and Axenfeld) have postulated the existence in these cases of a true retractor muscle, probably representing an abnormal insertion in the region of the hinder pole of the defective rectus. The author thinks this assumption unnecessary. He states that usually in these cases the defective rectus is represented by a fibrous strand which does not permit of movement of the eyeball in the opposite direction, but will, of course, permit this movement if the eyeball be drawn deeper into the orbit, thus loosening this band. This retraction is therefore brought about by the combined action of the vertical recti, and represents an adaptation of these muscles to the altered conditions.

A. LEVY.

Rogman.—Perithelial sarcoma of the iris with invasion of the ciliary body. (Sarcome périthélial de l'iris avec envahissement du corps ciliare.) *Annales d'oculistique*, T. CXXIX. (1903), p. 5.

Rogman enucleated the eye of a woman, 38 years of age, on account of a sarcoma of the iris, which a less serious operation (iridectomy) had failed to remove completely. The greatest diameter of the tumour, which formed a mass of irregular shape, was 8 mm. and its smallest 5 mm. It involved the ciliary body and all the iris, except the posterior layer of that tissue. Upon microscopical examination, a difference was found to exist between the tumour as it affected the iris and as it affected the ciliary body. The ciliary tumour was composed of a succession and superposition of cellular layers, separated by connective tissue, which by anastomosis formed a plexus. This tissue included many blood-vessels, in which the column of blood was separated from the neoplastic cells by a simple layer of endothelium only. The sarcomatous cells belonged to the cylindrical type, and were arranged, pallisade-like, along the connective tissue framework of the neoplasm. Pigment cells were few and far between. No signs of degeneration, mucous, hyaline, amyloid, or otherwise, could be found. In the tumour as it affected the iris the above described arrangement could not be made out. The neoplastic cells in that position were fusiform, and disposed in bundles, without any precise order. Vessels were not numerous and pigmentary cells were rare. The angle of the iris included masses of cells apparently separated from the tumour, and these were also found entangled in the cicatrix left by the iridectomy. Towards its centre, the cornea was extremely thin. Rogman concludes that the tumour originated from the iris.

S. S.

Randolph, Robert L.—The rôle of the toxins in inflammations of the Eye. *Bulletin of the Johns Hopkins Hospital*, March-April, 1903.

Abundant evidence exists, according to Randolph, to show that the healthy conjunctiva, like the healthy vagina and the healthy intestine, probably contains bacteria at all times. Of these micro-organisms, the most frequent are the staphylococcus aureus, micrococcus lanceolatus, and micrococcus epidermidis albus. Most forms of ophthalmia are caused by the multiplication of special bacteria upon or in the conjunctiva. Whatever difference of opinion there may be with regard to the bacterial origin of trachoma, vernal catarrh, and phlyctenular conjunctivitis, there is now no serious dispute as regards the fact that ulcus serpens is caused by the pneumococcus, " pink eye " by the Koch-Weeks' bacillus, gonorrhœal ophthalmia by the gonococcus, and sub-acute or chronic conjunctivitis by the diplo-bacillus of Morax-Axenfeld. How do these various organisms produce inflammation of the conjunctiva ? Clearly, not by acting as so many foreign bodies, else all organisms would stand on much the same footing, and the inflammation they caused would be in relation to their size and not to their vital qualities. Moreover, that they must be in contact with the conjunctiva for a certain length of time before setting up reaction, tells dead against that view. Micro-organisms, therefore, produce inflammation by manufacturing soluble toxins which in their turn act upon the cells of the tissues. The experimental proof of this theory is, however, difficult. For example, many of the pathogenic organisms found in the eye are peculiar to man. Thus, Randolph has repeatedly tried to obtain a reaction by introducing gonococci into the conjunctival sac of the rabbit, but the result was always negative. At the same time, Heller and Morax and Elmassian have occasionally succeeded in producing a modified conjunctival inflammation by making an abundant inoculation with a very virulent strain of gonococci and by occluding the eye for twenty-four hours after the operation.

We have no precise information as to the chemical nature of bacterial toxins, although the latter are chemical substances capable of filtration, precipitation, and resolution. They are usually complex, and made up of an alkaloidal material and a nitrogenous substance, which is extremely active. At present, these chemically undefined substances can be recognised only by biological tests. Experimental studies upon the part played by toxins in inflammations of the eye have been made by Bardelli, Druault and Petit, H. Coppez, and Morax and Elmassian. Coppez has shown that the diphtheria toxin has a marked action upon the cornea, especially when the anterior epithelium of that structure has been injured. His experiments demonstrate that the tears have no antiseptic influence upon the diphtheria bacillus. The streptococcus toxin and the pneumococcus toxin, on the other hand, have very little action upon the cornea. The toxins of staphylococci, according to Soloview and Molodovosky, reproduce upon a small scale much the same lesions as the staphylococci themselves. As regards the toxins of the gonococcus, Koch-Weeks' bacillus, Morax-Axenfeld diplobacillus, and of the staphylococcus, the thirty-eight experiments conducted by Morax and Elmassian show that the mucous membrane of the rabbit's eye reacts under the influence of these toxins much in the same way as the human conjunctiva. The reaction takes two or three hours to develop.

Randolph has made experiments with the toxins of gonococcus, diphtheria bacillus, pneumococcus, staphylococcus aureus, micrococcus epidermidis albus, streptococcus pyogenes, bacillus coli communis, and xerosis bacillus—that is to say, with organisms, all of which, with the exception of the micrococcus epidermidis albus, have been credited with the power of producing inflammation in the eye in some form or other. The toxins were obtained by filtration, although the dead cultures were now and then employed.

Forty experiments were made by dropping the toxins into the conjunctival sac, but once only did the author succeed in exciting a conjunctivitis. The toxins did not damage the epithelium, and perhaps on that account were not absorbed. Thirty-one experiments were performed by injecting toxins into the conjunctiva, and in every instance a positive result was obtained. It is however possible since some of the organisms employed in the experiments are not supposed to give rise to soluble tòxins, that the effect might be due to the irritating bacterio-proteins described by Buchner.

Six experiments were made by injecting toxins into the anterior chamber, and thus setting up iritis and conjunctivitis. The absence of panophthalmitis and of "closed pupil" is explained, Randolph thinks, by the fact that some at least of the filtrates oozed out of the anterior chamber after the inoculation.

Randolph adds a report of his investigations upon the bacteriology of the normal conjunctiva of rabbits based upon nearly fifty experiments. A large sterile platinum loop was rubbed over the ocular conjunctiva and carried into the conjunctival sac. It was then used to inoculate fluid agar; plate cultures were always made. In the result it was found that the healthy conjunctiva of the rabbit, like that of the human conjunctiva, was practically never sterile (one sterile plate in the forty-seven observations). The staphylococcus epidermidis albus was found in thirty-six of the forty-seven observations.

Randolph's conclusions are as follows :—

1. Bacterial toxins, so far as tested, when dropped even for many hours into the healthy conjunctival sac, were found to be incapable of producing inflammation or of causing any other injury.

2. The same toxins when injected into the tissues of the conjunctiva or into the anterior chamber invariably set up local inflammation, the extent and intensity of which varied to some extent according to the species of bacterium yielding the toxin.

3. Bacteria not previously proved to produce soluble toxins were found to produce the latter even in young cultures, and it is suggested that injections of bacterial filtrates into the eye, particularly into the conjunctival tissue, constitute a more delicate biological test for the detection of certain toxins than the tests usually employed for this purpose.

4. The experiments recorded in this paper furnish additional examples in a comparatively new field of the importance of toxins in explaining the pathogenic action of bacteria, and likewise emphasize the etiological significance of injuries of the covering membrane of the eye in favouring the action of toxins and of bacteria.

S. S.

Grossmann, Karl.—The Mechanism of Accommodation in Man. *Ophthalmic Review*, January, 1904.

In this paper the views held by other observers are first stated, and the theories that at the present time have supporters are two: (1) Helmholtz, which states that the increase of curvature of the lens during accommodation is produced by relaxation of the zonule, due to contraction of the ciliary muscle; and (2) Tscherning's theory, which assumes that the increase of curvature of the central portion of the lens is due to constriction and flattening of the peripheral part.

Grossmann's attention was directed to this subject by having as a patient, a young man, aged 26, who had aniridia in both eyes, and small anterior and posterior polar opacities in both lenses. The eyes had six or seven dioptres of hypermetropia besides astigmatism. They were, however, free from glaucoma. When eserine was used, the lenses, which were homogenously red before, became divided into three zones: an inner one, a darker middle one, and an outer red one; the ring-shaped middle zone was the expression of difference of refraction between the central and peripheral portions. A striking feature is the tremor of the lens which developes when eserine is used, of which not a trace can be seen without it, and under it also the ciliary processes become visible, though no voluntary effort of accommodation is able to bring them into view. The circumference of the lens remains perfectly circular but the equatorial diameter is decreased thus: under normal conditions it is 11½ mm., under eserine it is 10¼ mm., and under homatropine it is 12¼ mm. The thickness of the lens under the influence of eserine is increased 1.3mm., the distance between the lens and the cornea decreases ½ mm. and the posterior surface of the lens bulges backwards 0.8mm.

The tremor of the lens is due to the zonule being relaxed, and the lens left somewhat loose, though the lens, as a rule, moves slightly upwards and inwards during accommodation.

By means of the images of the lights reflected from the surfaces of the lens the author concludes that its posterior surface changes during accommodation in exactly the same manner as the anterior surface, and forms a posterior lenticonus with increased curvature of the centre, and flattening of the peripheral portion.

C. D. M.

Kampherstein.—A case of glaucomatous excavation with retinal filling-up. (Ein Fall von glaukomatöser Exkavation mit retinaler Ausfüllung.) *Klin. Monatsbl. f. Augenheilk.*, J. XLI (1903), I Band, p. 25.

Kampherstein removed an eye from a man, aged 66 years, on account of absolute glaucoma. Upon examination, the iris and lens were in contact with the cornea, so that the anterior chamber was non-existent. The lens was cataractous. The optic papilla and the lamina cribrosa were deeply excavated; the former was completely atrophic. The glaucomatous excavation was filled up with material derived from the retina, and with old blood pigment, but no signs of inflammatory infiltration could be made out. The retina was atrophic, especially as regards its nerve fibre and ganglion cell layers. The retinal vessels manifested very pronounced arteriosclerotic changes. There were recent prepapillary hæmorrhages.

Max P.

Kayser, B.— A contribution to the knowledge of Keratomycosis aspergillina. (Ein Beitrag zur Kenntnis der Keratomykosis aspergillina.) *Klin. Monatsbl. f. Augenheilkunde*, J. XLI. (1903), Bd. 1, p. 50.

The aspergillus fumigatus gives rise to a characteristic form of keratitis, all the recorded cases of which are briefly analysed by Kayser in the present communication. Kayser then reports the case of a countryman, 26 years of age, who was struck in one eye with a bit of wood, an accident followed by slight but persistent inflammation. When examined by Kayser fourteen days after the injury, the left eye showed slight and partial conjunctival congestion, not associated with photophobia or lacrymation. In the lower-outer part of the cornea, about midway between the limbus and the centre of the cornea, was a circular, dry, scaly, white infiltration, 1.5 mm.to 2mm. in diameter. It was raised above the level of the rest of the cornea, and surrounded by a shallow, greyish trench, and a zone of infiltration. A bunch of vessels ran towards the lesion from the edge of the cornea. There was no hypopyon. The clinical appearance was reminiscent of a *keratitis fascicularis.* Upon studying the lesion with a Zeiss corneal microscope, a small foreign body, blackish-brown in colour, was detected. The mass was removed, leaving behind a flat, greyish ulcer, which healed in the course of a few days without disturbance of sight. Several kinds of nutrient media were inoculated with the substance, which was then embedded in paraffin and cut for the microscope. The sections, in which remains of the corneal tissue could not be found, showed the mycelium of a fungus: fructification organs could not be recognised. After incubation at 36° C., tubes of agar, gelatine, and serum showed an abundant growth of aspergillus fumigatus, and also of a diplococcus, not staining by Gram. The corneæ of several rabbits were inoculated with the aspergillus, and in all a typical keratomycosis aspergillina was produced. The diplococci were non-pathogenic as regards the cornea of rabbits. The communication concludes with a discussion of the etiology, symptoms, and bacterial associations of this form of disease, which Kayser thinks must often escape recognition.

S. S.

Zentmayer, William.—A case of Microphthalmos with orbital cysts, with histologic study, by Harold G. Goldberg. *Annals of Ophthalmology,* Vol. VIII, No. 1, January, 1904.

Based upon a most careful study of the histologic conditions, Zentmayer comes to the following conclusions: in both eyes a tendency towards cystic changes of the imperfectly developed eye is manifest. This is shown macroscopically by the large cysts, and microscopically by the cystic changes in the ocular tunics. The microscopic changes of especial interest are cyst cavities in the nerve fibre layer, regular cystic enlargements composed of the nuclear layers, and fibrous septa extending from the wall of the small cyst into the cavity; all of which the author believes are intimately related. The pressure of the retinal elements in the large cyst walls and the striking histologic resemblance between the lining membrane of the cyst and the normal retina, and its transition into fibres composed of cells similar to those of the ciliary body at a corresponding situation, indicate the tendency towards the formation of a complementary eye.

F. W. Marlow.

II.—ASEPSIS AND ANTISEPSIS.

Axenfeld.—A mouth veil for the avoidance of infection in eye operations. (Mundschleier zur Vermeidung der Tröpfcheninfektion (Flügge) bei Augenoperationen.) *Klin. Monatsbl. f. Augenheilk.*, Oktober, 1903, and *Zeitschr. f. Augenheilkunde*, Dezember, 1903.

Axenfeld, following the example of many surgeons, recommends that in operations upon the eye one should wear a veil of doubled gauze, fastened to a wire, running from ear to ear under the nose, and hanging down to the chest. Its lower edge is held in place by tapes. Infection by particles of water from the mouth is very likely to occur in operations upon the eye, because the operator has often to speak to the patient or to give instructions to those around him.

Léon, Mendes de.—A source of infection during operation hitherto not sufficiently recognised. *Medical Press and Circular*, January 27, 1904.

Even a taciturn surgeon, it appears, speaks 150 to 248 words during a short operation. Léon shows in a convincing way that there is risk of infecting a wound during operation by particles of bacteria-laden saliva projected from the surgeon's mouth during the act of speaking. He has found that by speaking over agar plates (carefully shielded from atmospheric contamination) he could obtain numerous colonies of micro-organisms, including streptococci and staphylococci, the virulence of which was demonstrated by inoculating a large number of guinea-pigs, white mice, and rabbits. How may this means of infection be avoided? First, by not speaking at all, a thing practically impossible, especially during a difficult or complicated operation. Secondly, by rinsing out the mouth with an antiseptic. Here the difficulty is to find an antiseptic strong enough to kill the organisms without being at the same time too irritating or too poisonous to apply to the buccal mucous membrane. Moreover, Léon has found micro-organisms to be just as numerous upon his agar plates after as before adopting this plan. Third, by adopting masks of single or double gauze. But, according to the author's experiments, there were many colonies of bacteria on the plates when this method was adopted. Lastly, a respirator, containing cotton wool between perforated metal plates, may be worn during operation. This appears to afford the maximum degree of security and comfort, since it totally prevents the exit of microbes from the mouth (as shown by actual experiment) and at the same time does not interfere with speech.

Bach, L.—The importance of bacteriological investigation in operative eye work. (Die Bedeutung der bakteriologischen Forschung für die operative Augenheilkunde.) *Zeitschr. f. Augenheilkunde*, Januar, 1904.

During operations upon the eye infection may take place in several ways, as, for example, by the air, the hands or person of the surgeon, eye drops, edges of the eye-lids, conjunctival sac, tear-passages, and, last but not least, by the instruments. Since pathogenic organisms are common in air, the possibility of atmospheric infection is generally admitted. In eye work, nevertheless, the risks of infection from this source are relatively unimportant, as the part operated upon is small, the wounds are of no great size, and the operation is soon over. The hands, an obvious source of infection, must be carefully cleansed by the best methods prior to any operation upon the eye. Even after thorough sterilisation, the hands may be contaminated anew by touching objects that are surgically unclean. In eye work we must avoid as much as possible touching the parts to be operated upon, especially in operations upon the globe. Inasmuch as pathogenic organisms may be present in the mouth, there are dangers about speaking during an operation on the eye. Hence, Bach advises that talking across the wound should be avoided, and, indeed, that conversation should be as limited as may be. Drops of cocaine, etc., used before, during, and after operation, are a source of potential danger. They must therefore be sterilised by boiling after each fresh exposure. Care must be taken to avoid soiling the pipette by touching the lids or the conjunctiva with the appliance, and then replacing the latter in the bottle containing the solution. That the conjunctiva or the edges of the eyelids, whether of normal appearance or not, are to be regarded as dangerous foci of infection has been abundantly proved by experimental work. Pathogenic bacteria, however, may be altogether absent from healthy-looking lid edges, although under other circumstances the reverse is likely to be the case. Thus, many bacteria, some of them virulent, are usually found in diseased lids and conjunctiva, and, under such circumstances, operation must, if possible, be postponed. The skin and other parts surrounding the eye must first be cleansed by antiseptics and by means of agents capable of dissolving fat, and afterwards cleansing of the conjunctival sac and edges of the lids must be carried on by irrigation with physiological salt solution or other indifferent fluid. This is to be followed by repeated blinking on the part of the patient, since it has been shown that blinking is one of the most efficacious ways whereby the conjunctival sac is cleansed. No method yields absolute results in rendering the parts sterile, except perhaps benzine, an agent that unfortunately is liable to cause pain and irritation. The wished-for goal may doubtless be attained by repeated mechanical cleansing and simultaneous irrigation with concentrated antiseptic liquids, but the relatively delicate nature of the conjunctiva renders this process practically out of the question. The conjunctival sac must be kept dry and free from fluid by the use of sterile pledgets of wool, in order that possibly infective fluid may not be introduced into the eye during the course of the operation.

Instruments, in Bach's opinion, still remain amongst the most dangerous sources of infection, although precautions of some sort are taken by almost every ophthalmic surgeon. Cutting instruments, and those intended to be introduced into the eye, are more dangerous than the others. The indifferent, sterile fluid, in which instruments are usually immersed immediately before they are used, may be a positive source of contamination. For example, Bach has known cases where this liquid had been sterilised one to two days before it was used, thus allowing any spores that might be present time to germinate. The fluid, again, may be contaminated during the progress of the operation by hands, conjunctiva, edges of the lids, or used instruments. Bach insists that instruments should be handled only by those thoroughly familiar with the principles of aseptic surgery. A soiled instrument may be quickly sterilised in a 1:200 solution of cyanide of mercury. Operations upon the conjunctiva are less prone to infection than those upon the cornea, because the former membrane is richly supplied with blood. Operations involving damage to the crystalline lens or vitreous body are specially difficult to keep free from sepsis.

The risk of post-operative infection, which may arise in several different ways, is considerable. It is likely to occur when the conjunctival sac includes many micro-organisms. As already stated, the opening and shutting of the eyelids has been shown to play a most important part in the cleansing of the normal conjunctival sac. Hence, after operation, protection is best secured, not by applying the regulation bandage, but by employing a wire shield or metallic capsule to guard the eye against external injury. But there is still a difference of opinion with regard to this point. Even under a bandage the action of the lid may to some extent be retained. The importance attached by some surgeons to bacteria lodged upon the edges of the lids leads them to keep the parts covered up with antiseptic pads. Bacteriological investigations show, however, that little can be accomplished by such means--disinfecting ointments are more useful in that respect. A bandage is often applied the night before operation for the purpose of ascertaining whether the conjunctiva is free from morbid secretion. The plan appears to be of service. The simplest way of rendering an operating table free from danger is to cover it with sterilised sheets.

To sum up, Bach recommends, in the course of his communication, the following measures for the purpose of securing asepsis of the wounds made by the surgeon during operations upon the eye. The skin of the eyelids and surrounding parts is treated with soap and lukewarm water, in order to remove grease and coarse impurities. The edges of the lids are carefully cleansed by damp and sterile wool and simultaneous irrigation with lukewarm saline solution, followed by repeated blinking on the part of the patient. This is succeeded by a fresh cleansing of the conjunctiva and edges of the eyelids. The speculum is next inserted between the lids. After that, the eyeball at the point of section is softly wiped with sterile wadding and the parts are irrigated with normal saline solution. Lastly, fluid is removed from the conjunctival sac by means of pledgets of wool. and the operation itself commenced.

S. S.

III.—DISEASES AND INJURIES OF THE EYE AND ORBIT.

Cabaut, Alberto B.—Upon echinococcus cysts of the Orbit. (Ueber Echinokokken-Cysten der Orbita.) *Woch. f. Therapie u. Hygiene des Auges*, 25 Februar, 1904.

This inaugural dissertation is based upon 75 cases of echinococcus cyst of the orbit, which Cabaut has collected from general literature, and upon 35 cases, which have been observed in Argentina. The latter occurred amongst 165,000 eye patients, so that the proportion was as 1 is to 4,714. The disease, therefore, is relatively frequent in Argentina. The eggs of the tapeworm of dogs are taken by man in his food. They are freed from their capsule by the juices in the stomach, and then pass through the capillaries of the intestine into the body. They may develop in various parts of the orbit, but generally lie in or about the muscular cone. They were never present in the optic nerve or the eyeball. Males, aged from 2 to 53 years, were the principal sufferers. The cysts are globular and about the size of a nut. The contained fluid is transparent and aseptic, and in a single case only did it consist of pus. The first symptom is considerable pain, resembling hemicrania, caused by the pressure of the cyst upon the orbital nerves. The tumour is elastic, resistent, and fluctuating. Its growth often comes to a standstill: perforation never occurs. In marked exophthalmos, suppuration of the cornea and eyeball may supervene. "Choked disc" is common.

The sight often improves after operation. Differential diagnosis from tumour is difficult. The so-called "hydatid thrill" is hard to detect. Transillumination and radiography are useful in order to distinguish cysts from exostosis. Exploratory puncture is always necessary, partly to certify diagnosis, and partly to initiate treatment. Echinococcus fluid contains hooklets and an increased amount of saline material; serous cysts contain abundant albumen and epithelial cells; meningocele contains uncoagulable fluid, many carbonates, and few cells or chlorides. The treatment of echinococcus cysts is wholly surgical. Professor Lagleyze divides the conjunctiva at a point between the insertion of two recti muscles, and continues the dissection until he reaches the cyst, the fluid contents of which are then withdrawn by means of a Pravaz syringe. This is followed by incision in the wall and extraction of the latter with forceps. Drainage is not employed, but the conjunctival wound is closed with sutures. Rarely, the spoon must be used. The pericystic wall need not be taken away. The eye itself is invariably spared. The Krönlein operation can be called for only if the cyst is very deeply situated, or if pulsation or œdema of the tissues is present. Electrolysis is not to be recommended. By operating in the way described above, Professor Lagleyze in twenty cases had a single relapse. He has observed spontaneous cure twice.

S. S.

Hansell, Howard F.—Two unusual forms of keratitis, probably rheumatic in origin. *Ophthalmic Record*, November, 1903.

Of the two cases reported by Hansell, the first was probably an instance of "lattice-work" keratitis, while the second resembled a case of superficial punctate keratitis.

Müller, Leopold.—Upon changes in the fundus in miliary Actinomycosis. (Ueber Veränderungen im Augenhintergrunde bei miliarer Aktinomykose.) *Klin. Monatsbl. f. Augenheilk.*, J. XLI (1903), Band I., p. 236.

A manservant, 22 years old, was believed to be affected with miliary tuberculosis, a diagnosis confirmed by Müller, who found in the fundus the following changes which were considered to be those of tuberculosis. In the right eye a yellowish-white spot, bordered with pigment, one-quarter the size of the optic papilla, lay beneath a vein near the last-named structure. That the lesion was raised was shown by the bending of the vessel. The media were clear, and the disc normal. Eleven days later, in the right eye four more spots, each equal in diameter to a large vein, were found, while the original spot had become larger. Moreover, in the other eye, three small spots were visible in the fundus. After death, the general condition was shown to be one not of miliary tuberculosis, as had been supposed, but of miliary actinomycosis. The eyeballs, after hardening, were opened at the equator, and microscopically showed unexpected changes. Thus, the choroid was normal, and the lesions observed during life were found to lie in the retina. They were made up of strikingly large epithelioid cells, the single nuclei of which coloured badly with nuclear stains. The cells had therefore undergone necrobiotic changes. Bacilli could not be found, despite repeated search. The large cells mentioned above, however, tell wholly in favour of a diagnosis of actinomycosis. Müller's appears to be the first case in which changes in the fundus have been demonstrated in miliary actinomycosis. S. S.

Deschamps.—Upon the etiology of polypi of the conjunctiva. (Sur l'étiologie des polypes de la conjonctive.) *Annales d'oculistique*, T. CXXIX (1903), p. 429.

In almost every case of polypus of the conjunctiva that has fallen under Deschamps' notice, a small foreign body has been found lodged in the *cul-de-sac*, in the vicinity of the point of origin of the growth. The foreign bodies found by the author include hairs from brushes, grains of wheat, wing-shells from beetles, fragments of wood, rose thorns, and pieces of palm leaves. The cases are usually met with in young children. H. DE V.

Guiot. — Cysticercus of the Eye, Retro-crystalline. (Cysticerque de l'œil, rétro-cristallien.) *La Clinique Ophtalmologique*, 10th April, 1903.

Guiot has recently seen two cases of cysticercus in the eye. The first could not be accurately observed on account of vitreous opacity. The one here described, however, was most favourably situated, immediately behind the lens of a child, aged 13½ years. The vesicle, like a bubble of air in a microscope field, moved freely from side to side with movements of the eyes, and gave rise to consequent eclipses of vision. The author prefers not to interfere surgically, unless complications arise.

W. ERNEST THOMSON.

Halben, R.—On Pseudo-Cataract. (Scheinkatarakt.) *V. Graefe's Archiv für Ophthalmologie*, 57 (2), December, 1903.

The lenticular affection of which Halben treats under this name has been described by various authors at different times, R. W. Doyne being the first to draw attention to it in 1888. Halben, however, is the first to enter extensively into the pathological and optical properties of this rather important condition, which is reallya central lenticular myopia, consecutive to sclerosis of the nucleus. The clinical symptoms are: considerable apparent opacity of the central portion by focal examination with disproportionate transparency under the ophthalmoscope; great difference of refraction between centre and periphery, the former showing a considerable amount of "acquired short-sight"—10 diopters, as an average; the edge of the central opacity lights up strikingly if light is thrown in from the opposite direction, and the central opacity seems to travel in the same direction if the mirror is turned round its axis, thereby producing the appearance of a skiascopic shadow, although in reality an effect only of parallax. Halben could find no histological signs of cataract in his cases, although cataract may eventually supervene. But he found a remarkable alteration of the refractive index of the substance of the lens, the index of the nuclear region being much higher than usual, and the rate of increase from the periphery to the centre, much more sudden. This is most likely due to the nucleus being inordinately dry, as it is also found to be harder and more brittle than usual. Halben then proceeds to explain how these changes would account for the clinical and optical features of this affection, which is perhaps an initial stage of "cataracta nigra." Extraction of the lens has, in Halben's cases, given most satisfactory results. R. GRUBER.

Stephenson, Sydney.—Tuberculosis of the Conjunctiva. *Reports of the Society for the Study of Disease in Children.* Vol. III (1903), p. 50.
See OPHTHALMOSCOPE, *Vol.* I (1903), *p.* 148.

IV.—THERAPEUTICS, OPERATIONS, INSTRUMENTS, AND APPLIANCES.

Holth, S.—Upon the formation of a round and regular pupil and of a large circle of the iris during tattooing of the cornea; the advantages which may be obtained from the employment of adrenaline in this operation. (De la création d'une pupille ronde et régulière, et d'un grand cercle de l'iris pendant le tatouage de la cornée; avantages que l'on obtient par l'emploi de l'adrénaline dans cette opération.) *Annales d'oculistique,* T. CXXX (1903), p. 333.

Holth, of Christiania, gives an interesting account of several modifications he has made in the operation of tatooing the cornea. Since it was shown by Alice Hamilton (*Centralbl. fur Bakter. u. Parasit.*, Bd., IV., Abt. II., 1898), that small, encapsuled bacilli were constantly found in Indian Ink, absolute sterilisation of that material has become the rule. Holth's method is as under: the ink is scraped into a test tube containing about 3 c.c. of water, and the tube is then placed in boiling water for some ten minutes. The eye is rendered anæsthetic by means of cocaine and adrenaline, and the patient is placed upon a table, arranged parallel to the window, the sound eye being next the light, and the surgeon standing on the opposite side, next to the affected eye. The speculum is inserted between the eyelids, but fixation forceps are not used. An ordinary punch, the diameter of which corresponds to that of the other pupil, is pressed on the cornea, so that a small circular groove is made in the epithelium. The epithelium comprised within this circle is removed with a sharp spoon, and oblique punctures are then made into the denuded area with a cataract needle. Hæmorrhage, should such occur, is arrested by cocaine and adrenaline. The tattooing needles (Holth employs four needles in the one instrument) are next moistened with the sterilised ink, and with their aid an intensely black pupil can speedily be obtained. Finally, the parts are irrigated with saline solution, in order to make sure that enough has been done to obtain a good result. If it is wished to imitate the iris, Holth first makes the pupil in the way described above, and then applies to the cornea a larger punch, the lower cutting end of which has a diameter of 11 mm., thereby marking out a larger groove than in the first case. The groove is then blackened, and radii between the two circles are tattooed, as well as the intermediate sectors. By varying the thickness of the Indian ink, and the closeness of the punctures, it is possible to imitate the colour of different kinds of iris. Holth speaks of certain insoluble and indelible colours (black, red, sky-blue, brown, and yellow), which can be obtained in Japan, and thinks that before long they may find their way to Europe.

S. S.

(1) **Imre, Josef.—Sublamin as a disinfectant of the conjunctiva.** *Heilkunde*, No. 9, September, 1903, and *Therapist*, November 14, 1903.

(2) **Sublamin in the treatment of Syphilis.** *Therapist*, January 15, 1904.

(1) Imre communicates his experiences with "sublamin," a preparation containing mercury sulphate and ethylenediamine in chemical combination, as a disinfectant in eye work. It has proved to be more efficient than sublimate for disinfection of the hands, since it does not irritate the skin, and yet has great powers of penetration. It is not precipitated by soapy water, and a 1 % solution does not affect silver, tin, or smooth nickel. Imre's experiences with sublamin may

be summarised as follows: a 1 % solution was found to be painless and useful in the treatment of the severer forms of conjunctivitis, especially in gonorrhœal ophthalmia. In the latter disease, ablutions were made every half hour, if possible with everted eyelids. From 50 to 100 grms. of liquid were used at regular intervals during day and night. Irrigations with sublamin have yielded Imre excellent results in ophthalmia neonatorum. In severe cases, however, painting of the conjunctiva with a solution of silver nitrate cannot be replaced even by frequent irrigations with sublamin. Sublamin, in the strength of 1 : 2,000 has been found useful in cases of trachoma. Finally, Imre speaks with approval of sublamin bandages and lotions in cases of severe infectious conjunctivitis.

(2) Subcutaneous or intramuscular injection is the only scientifically unimpeachable way of administering mercury, but unfortunately all the preparations hitherto employed have serious drawbacks. Fifteen syphilitics were treated with sublamin solution (3.4 %), some 280 injections into the gluteal muscles being made altogether. Some of the patients had chancres; others had papular, tubercular, and ulcerative secondary syphiloderms; and the rest had syphilitic affections of the mouth, tongue, and larynx. The action of the sublamin was exactly the same as that of the sublimate. But the re-action at the site of injection was in every instance far less marked. Indurations did occur, but they were smaller and softer than those caused by sublimate, and disappeared more quickly. It was also evident that the pain was less. The article concludes with these words: "We therefore possess in sublamin an anti-syphilitic that is readily soluble, does not destroy the injection needle so rapidly, and while as efficient as sublimate, causes less induration and pain."

Darier, A.—Note on the action of Radium as an analgesic and nerve tonic. *Lancet*, March 5, 1904.

Darier has found that radium preparations of low intensity applied to a painful part are often capable of rapidly removing the pain, say, of cyclitis or iridocyclitis. As regards the action of radium upon the psycho-motor centres, Darier has observed cure follow exposure in convulsive neurosis, neurasthenic pseudo-ataxia, and acute facial paralysis.

Rochon-Duvigneaud.—Spring-scissors for the incision of secondary cataracts. (Une pince-ciseaux pour l'incision des cataractes secondaires.) *Archives d'Ophtalmologie*, T. XXIII (1903), p. 561.

After a brief description of the various instruments used to divide "after-cataract," Rochon-Duvigneaud professes his personal preference for scissors. He then gives an account of a modified pair of spring scissors, the blades of which are so curved as to divide the membrane with ease, even although it lies in contact with the cornea after the escape of the aqueous humour. Instrument made by M. Collin.

H. de V.

(1) **Neustätter.—Aspirin in eye work. (Aspirin in der augenärzlichen Praxis.)** *Münch. med. Wochenschr.*, No. 42, 1903.

(2) **Winkelmann.—An untoward effect of Aspirin. (Aspirin-Nebenwirkung.)** *Münch. med. Wochenschr.*, No. 42, 1903.

(1) The experiments of Neustätter with aspirin extend over a period of 2¼ years. As a means of producing diaphoresis it was employed in doses of 0.5 to 1.0 gramme in all acute and chronic inflammatory affections of the interior of the eye. In order to obviate stomachic irritation due to the insolubility of the remedy, Neustätter administered with aspirin one or two glasses of hot lemonade or of other indifferent fluid. The specific action of aspirin is directed against eye troubles of rheumatic or gonorrhœal origin, such as iritis, neuritis optica, muscular paresis, episcleritis, and scleritis. In such cases Neustätter employed large doses (2 to 5 grammes a day). The analgesic and hypnotic action of the drug proved useful in the affections named above, as well as in parenchymatous keratitis, neuralgia, glaucoma, and the headache caused by eserine. In cases where the bodily temperature was increased, this was considerably reduced by the profuse sweating brought on by aspirin. With regard to unpleasant complications as the result of giving aspirin, ringing in the ears was set up once, and once there was slight disturbance of digestion in a patient who had previously suffered from indigestion. Provided one gives 0.5 gramme doses of the tablets prepared by the Bayer Company, the cost of aspirin scarcely exceeds that of salicine. On the other hand, in Neustätter's experience, aspirin exceeds salicine as regards its curative powers, while it is much more pleasant to take.

(2) After a couple of doses of 1 gramme each of aspirin Winkelmann observed an eruption upon the extremities, which disappeared in thirty-six hours without further trouble.

Zeitschr. f. Augenheilkunde, Dezember, 1903.

Ovio, G.—Upon stenopaic spectacles. (Sugli occiali stenopeici.) *Annalia di Ottal*, 1903, Vol 32, Fas. 7—8, p. 429.

The article by Ovio, with seven figures in the text and one plate, is very complete. It begins with an historical *résumé*, relates numerous personal experiences, and ends with remarks that may be tabulated as follows :—

1. One may reduce to a minimum the disturbance of vision caused by the removal of light and diffraction phenomena due to ordinary stenopaic spectacles.

2. The inconvenience caused by a narrowing of the visual field is remarkable, even with a hole so small as 1 mm. Much less inconvenient from this point of view are stenopaic slits placed horizontally or even Heilborn's spectacles.

3. The stenopaic hole applied to both eyes interferes with binocular vision because the two images of the holes change their positions, etc. The appreciation of distance, relief, etc., is very difficult, while the eyes are furnished with the stenopaic hole.

4. Stenopaic spectacles in the form of a shell are preferable to the flat form, since the former protect the eyes from light falling in from the sides.

5. The stenopaic hole furnishes the clearest images when it is employed to compensate an error of refraction, but it presents the inconvenience of narrowing the visual field unduly and of disturbing vision considerably when it is used for both eyes. The stenopaic slit gives a much larger visual field, which is very nseful when the slit is horizontal, but it does not compensate errors of refraction nearly so well. Heilborn's spectacles (plaques having holes at least ½ mm. in diameter arranged in concentric series) do not reduce the visual field, dispensing with all abnormal movements of the head during reading, since the eye at each excursion finds a hole opposite to its visual axis, cutting off a moderate amount of light, which is sometimes an advantage. Heilborn's spectacles, however, present the inconvenience of producing polyopia, which causes the greater inconvenience, as it continually varies with every movement of the eyes and with every change in the diameter of the pupil.

6. The best size for the stenopaic hole is 1 mm. in diameter. If smaller it would diminish unduly the amount of light reaching the eye and the extent of the visual field; if larger it would fail to compensate a more or less considerable error of refraction.

In conclusion and without affirming anything absolutely, it may be said that stenopaic spectacles are able to give assistance in high myopia by adding Heilborn's *plaques* to concave glasses of medium strength. This expedient is really useful for reading, all the more so as we have to deal with patients who have for long abandoned binocular vision. Another useful application would be in cases of more or less irregular astigmatism, or in semi-transparent corneal nebulæ (to avoid diffusion), or, lastly, in large or irreducible pupils (paralysis of the sphincter), coloboma, iridectomy, etc.

A. ANTONELLI.

Arlt, F. R. von.—The results obtained with Cuprocitrol in trachomatous Conjunctivitis. (Le Cuprocitrol et son emploi dans la conjonctivite trachomateuse: résultats obtenus.) *La Clinique Ophtalmologique*, juillet, 1903.

Copper citrate, it appears, was obtained by Guy-Lussac in the year 1836. It includes 32.5 per cent. of copper and 1 part is soluble in 9,143 parts of distilled water, and in 7,700 parts of a solution of sodium chloride at a temperature of 36° C. Arlt gives the name "Cuprocitrol" to a mixture of finely divided cupric citrate with the glycerine ointment of the Austrian Pharmacopœia. This mixture forms a salve, of a turquoise-blue colour, which can be kept in a glass pot for a year without undergoing alteration. A morsel of the ointment is placed in the conjunctival cul-de-sac with a small glass rod, and is then well distributed over the parts by means of light massage practised through the eyelids. If applied by the surgeon himself, the medicament is placed in the superior cul-de-sac, the upper lid having first been everted. The application is repeated two or three times a day, and on each occasion is followed by massage for thirty seconds. A 5 per cent. strength is used to begin with, but, later, this is replaced by an ointment containing 10 per cent. of copper citrate.

Arlt finds cuprocitrol useful in all cases of trachoma where the solid "bluestone" would ordinarily be employed. It acts equally well in recent and in long-standing trachoma, associated or not with pannus, facettes of the cornea, thickening of the palpebral conjunctiva, papillæ, cicatrices, or shortening of the conjunctival fornices. On the other hand, it does not suit the mixed forms of trachoma, and especially those accompanied by eczematous conjunctivitis or associated with marked secretion, advanced corneal lesions, or ciliary irritation. The new remedy is stated to be neither irritant nor caustic, to cause no pain, and not to compel the patient to leave his ordinary occupation. It presents the additional advantage that its application can be carried out at the patient's home, a point of some importance when the sufferer lives at a considerable distance from the doctor. Lastly, it may be mentioned that in 1902 Professor Fuchs tried cuprocitrol in nineteen cases of trachoma, in only one of which the agent was not well tolerated. Fuchs has since then employed the remedy on a much more extensive scale.

A. DARIER.

Goldschmidt, Bruno.—Renoform. *Die Therapie der Gegenwart*, Juli, 1903.

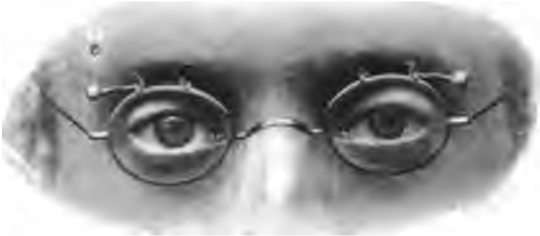
Renoform is a fluid extract of the active principle of the supra-renal bodies, manufactured by a firm of Berlin chemists.

It is recommended by Goldschmidt as a cheap, active, and non-irritating substitute for adrenaline.

IV.—MISCELLANEOUS.

Spectacle Frames for Ptosis. *Lancet*, February 27th, 1904.

These spectacle frames, intended for the relief of ptosis without operation, are made by W. F. Stanley & Co., Railway Approach, London Bridge, S.E. Small spring supports are fitted to the upper borders of the lens frames, so as to keep up the drooping eyelids. The illustration shows the spectcales in use. They are the invention of Dr. Donald.



Finlay, C. E.—Delirium after Eye operations. *Archives of Ophthalmology*, Vol. XXXIII, No. 1, January, 1904.

Finlay reports a case which, in his opinion, confirms the views which were enunciated by Fromaget, of Bordeaux, in a paper published in 1900 in the *Annales d'Oculistique*, namely, that such delirium is the result of an autointoxication which is most frequently uræmic, and due to an accumulation of excrementitious products in the system from renal insufficiency.

The patient was a pale and weakly Italian, whose urine, upon her admission to the hospital, presented a trace of albumin. She was operated upon for cataract of left eye, both eyes being bandaged. The same night she became violently delirious, tearing off bandage, etc. Morphine made her worse. Systematic examination of the urine showed great diminution in quantity of the fluid, and the proportion of urea considerably diminished. Daily examinations of the urine were made for a period of thirteen days, showing great variations in the quantity, and some in the amount, of urea. Upon the whole, however, there was an increase in the urea, the total amount of urine always remaining greatly below that of normal. On the fourteenth day, the right eye was operated upon, one eye only being bandaged. Bromide of potassium was administered internally. For one night the patient was nervous, but had no delirium. No atropine was used in either eye. The author thinks that the fear of the operation with the mental shock of the latter may act the part of the "last straw" in inducing a renal insufficiency in a patient with prior kidney lesion. He believes that the influence of bandaging both eyes was secondary, and of the same importance as the psychic influences. F. W. MARLOW.

Jones, Charles D.—The Retinal Image. *Ophthalmic Record*, July, 1903.

Stillson, Hamilton.—Some remarks on the influence of environment on the eye. *American Journal of Ophthalmology*, December, 1903.

Burnett, Swan M.—Astigmia or Astigmatism—which? *American Journal of Ophthalmology*, December, 1903.

Heilborn, Franz.—On venereal diseases of the eye in the innocent. (Ueber venerische Augenerkrankungen Unschuldiger.) *Wochens. f. Ther. u. Hygiene des Auges*, 28 Januar, 1904.

A widow, aged 48 years, developed gonorrhœal ophthalmia in one eye. Her grand-daughter, aged 3 years, suffered coincidently from gonorrhœal vulvo-vaginitis, unassociated with signs of defloration. The connecting link between the old lady's gonorrhœal ophthalmia, on the one hand, and the child's gonorrhœa, on the other, was found to be the mother of the child, a woman aged 21 years, who was herself affected with gonorrhœa of the ordinary type. The mother and the child occupied the same bed, and the grandmother had used a towel for the dual purpose of cleansing the child's genitals and of wiping her own face. S. S.

Jacoby, George W.—The sign of the orbicularis in peripheral facial paralysis. *Journal of Mental and Nervous Disease*, October, 1903.

This sign lies in the inability of a hemiplegic voluntarily to close the eye upon the paralysed side, except in conjunction with the other eye. As the result of his studies, Jacoby has reached the following conclusions: (1) The statement of Bard, that the sign is invariably lacking in peripheral facial paralysis and is therefore a distinguishing mark of central affection, is incorrect. (2) The existence of the sign in peripheral paralysis is further proof of the existence of commissural fibres between the nuclei of the seventh nerves. (3) The sign is of clinical value in so far as its presence in peripheral paralysis shows that complete recovery has not yet occurred.

(4) The secondary over-action in the orbicularis palpebrarum, which is late in appearance and always coincides with some recovery in power, does not occur in those cases in which the sign having been present has passed away.

Ellett, E. C.—Notes from the clinic of Dr. Galezowski. *Ophthalmic Record*, November, 1903.

Le Fever, C. W.—Deficient dynamics of the extra-ocular muscles. *Ophthalmic Record*, November, 1903.

Meige, Henry.—Les tics des yeux. *Annales d'oculistique*, T. XXIX (1903), p. 167.

Bichelonne.—Considerations upon the simulation of concentric contraction of the visual field (Considérations sur la simulation du rétrécissement concentrique du champ visuel.) *Annales d'oculistique*, T. CXXIX (1903), p. 252.

Schenk, G.—Sanguineous lacrymation due to hæmorrhage from the naso-lacrymal duct. (Blutige Tränen durch Blutung aus dem Ductus nasolacrymalis.) *Klin. Monatsbl. f. Augenheilk.*, J. XLI (1903), Band I, 481.

Schenk, of Rosenberg, was hurriedly called to an old man, who had often suffered from obstinate epistaxis. As much blood had been lost when Schenk got to the patient, the left nostril, whence the hæmorrhage came, was plugged in front with gauze soaked in alum solution, and afterwards a second plug was inserted, a distance of about 3 mm. separating the two tampons. After the operation had been finished, the throat gargled, and the parts cleansed, watery blood was seen upon the patient's left cheek. The blood was found to come from the left eye. Schenk assumes that the source of the bleeding lay in the immediate neighbourhood of the lower end of the lacrymal duct between the two plugs that had been inserted, and that during the act of swallowing, blood was forced up the nasal duct, and appeared in the conjunctival sac under the guise of blood-stained tears.

MAX P.

Sommer, G.—Congenital absence of psychical and reflex weeping. (Angeborener Mangel des psychischen und reflektorischen Weinens.) *Klin. Monatsbl. f. Augenheilk.*, J. XLI. (1903), Band I, p. 482.

A child, aged about 2½ years, was brought to Sommer with the information that the child had never shed tears. In proof of this statement it was said that when he was badly burned some time before, neither the injury nor the subsequent dressings, although very painful, had made him cry. Tear passages, conjunctiva, fundus, and salivary glands normal. Repeated experiments with onions, calomel, and other irritating agencies showed that tears were not secreted—a mere dampness of the eyes was all that could be produced. The internal administration of jaborandi effected no change in the condition. The child died when aged 2 years and 10 months, and for some little time before death the mother noticed a scanty secretion of tears. With the exception of a case described by Morton (Wilbrand-Saenger *Neurologie*, II., s. 24), where there was unilateral absence of tears, Sommer is aware of no case resembling his own.

S. S.

Mitchell, John R.—Report of a case of familial tremor of the head. *Journal of Mental & Nervous Disease*, March, 1903.

Following a period of overwork, a student, 22 years of age, developed a slight lateral tremor of the head—rapid and almost constant. It could not be stopped voluntarily. There was myopic astigmatism, very imperfectly corrected. The patient's mother had developed a similar tremor of the head at 22 years of age; his maternal grandfather was affected at 40 years of age; and his maternal great-grandfather exhibited the symptom at 70 years.

Hirschberg, J.—Contributions to the prognosis of malignant tumours of the choroid. (Beiträge zur Prognose der bösartigen Aderhautgeschwülste.) *Berliner klinischen Wochenschr.*, Nos. 4 and 5, 1904.

Hirschberg discusses the justifiability of operative measures in malignant tumours of the choroid. Twenty-five years ago Bernhard v. Langenbeck reached the conclusion that operation was worthless, inasmuch as all his patients died from metastasis. Since then statistics have shown an increasing number of what may be regarded as cures. Operation may be beneficial in two ways: first, by prolonging life; secondly, by sparing the patient painful symptoms due to the pressure of the neoplasm. Metastatic growths occur most frequently in the liver, but there may also be local recurrence. In reference to the latter contingency, Hirschberg cautions practitioners against exploratory incisions, since such have several times been the site of local recurrence. Death from metastasis occurs, on an average, two-and-a-half years after operation. Generally speaking, operation may be regarded as successful if there are no signs of metastasis or local recurrence after an interval of four years. Metastatic growths, however, obey no exact laws, and the author quotes the case of a woman who, nine years after removal of the eyeball for melanotic sarcoma of the choroid, consulted a medical man on account of recent pain and swelling of the abdomen. After her death, which took place a month later, melanotic growths were found in the liver, pancreas, and myocardium. On the other hand, death from metastasis sometimes occurs a few months after an enucleation performed early in the first stage of the disease. The statistics of collected cases vary much, since many patients are lost sight of, and, further, sufficient time may not have elapsed to form a trustworthy opinion upon the case. Fuchs, in 235 collected cases, gives 6% of permanent cures; Freudenthal, in 26 cases, gives 37·5% of permanent cures; Pawel, in 89 cases, gives 57% of complete cures; and Lawford and E. Treacher Collins, in 85 cases, give 25% of permanent cures. Hirschberg himself, in the decade ending in 1882, amongst his own patients, gives 25% of cures, and in the decade just ended, 50% of cures. He considers that the success of the operation depends largely upon the stage at which it is performed. 60% of his operations have been in the first or non-inflammatory stage; 20% in the second or stage of inflammation and high tension; 10% in the stage where the growth had become external. Hirschberg has never knowingly operated in the fourth or stage of metastasis. Hirschberg, finally, expresses his opinion that surgeons are justified in urging their patients to operation at the earliest possible moment. Sarcomata of the choroid are generally melanotic, but non-pigmented and slightly pigmented tumours also occur. Children are not subject to sarcoma of the choroid; in them malignant disease attacks the retina. The prognosis in children after operation is very favourable.

ANNIE T. BARNARD.

Colburn, J. Elliott.—Clinical experiences in the treatment of phorias and tropias. *American Journal of Ophthalmology*, June, 1903.

NOTES AND ECHOES.

International Congress of Ophthalmology. AN advance copy of an amended circular respecting the tenth international congress of ophthalmology, which, as readers know, is to meet at Lucerne in September next, has just reached us. From it we gather that some important alterations have been made. For example, the date of the meeting, " in compliance with the request of numerous foreign colleagues," has been advanced by a week. The congress will assemble on September 13th, 14th, 15th, and 16th, instead of on September 19th, 20th, and 21st of that month, as already announced (see OPHTHALMOSCOPE, September, 1903). Professor Siegrist, of the University of Berne, will replace Professor Pflüger on the executive; and Dr. E. Landolt, of Paris, has been elected a Vice-President of the Congress. Members who wish to secure accommodation at Lucerne are advised to apply, before September 1st, to Dr. F.

Stocker, who will engage a room at one of the best hotels for the very moderate charge of five francs a day, early breakfast included. Further information can be obtained from Mr. W. H. Jessop, Mr. H. R. Swanzy, or Dr. George Mackay, the correspondents for England, Ireland, and Scotland respectively.

* * * *

British Medical Association, Oxford Meeting, 1904—Section of Ophthalmology.

SOME details of the forthcoming meeting of the British Medical Association have already been given in our columns (see OPHTHALMOSCOPE, January, 1904,) Three discussions have been arranged in the section of ophthalmology. 1.—Retro-ocular Neuritis. To be opened by Mr. R. Marcus Gunn. 2.—Intra-ocular hæmorrhage and systemic disease. Dr. Hill Griffith. 3.—Keratitis profunda. Mr. W. T. Holmes Spicer. The papers of the respective openers of the discussions will be ready for publication in May next, and will then be available for those who arrange to attend the meeting. This will be a great convenience for members who intend to take part in the discussions, and as such is to be commended to the serious attention of those who have to do with the organisation of scientific meetings of this sort. Upwards of fifty well-known ophthalmic surgeons have already promised to be present at the meeting, and the three official guests of the Association, accredited to the section of ophthalmology, are Professor J. Hirschberg (Berlin), Dr. Émile Javal (Paris), and Dr. C. A. Oliver (Philadelphia, U.S.A.). It would be difficult to make a more representative choice. Amongst the communications promised are the following :—

1. Short Note on Two Cases of Disease of the Canaliculi. Dr. A. H. Benson.
2. (*a*) On Glaucoma and Glaucoma operations. (*b*) On Visual Efficiency after Accidents to Sight from the Point of View of Employers' Liability. Dr. G. A. Berry.
3. The Operative Treatment of High Myopia. Mr. W. Adams Frost.
4. Reforms in the Notation of the Acuteness of Vision. Dr. Émile Javal, Paris.
5. (Title not yet announced). Mr. W. H. H. Jessop.
6. Sepsis and Intra-ocular Inflammations. Mr. W. Lang.
7. The Temperature of the Cornea and its Relation to Corneal Therapeutics. Dr. Angus McGillivray.
8. Upon the Maturation and Extraction of Senile Cataract. Professor M. McHardy.
9. Conclusions as to the Vision of Birds based upon a Consideration of Mimetic Colour and Pattern in Insects. Professor Poulton, F.R.S.
10. Visual Acuity in Savage Races. Dr. W. H. R. Rivers.

11. (A subject bearing upon Glaucoma). Mr. Priestley Smith.
12. Ophthalmoplegia Externa. Dr. James Taylor.
13. Paracentesis of the Cornea for the Relief of Tension Consequent upon Tearing Opaque Capsule. Mr. T. Pridgin Teale.

* * * *

Retirement of Dr. D. Argyll Robertson.

THERE is always a pathetic note about the retirement of a leading man from the active service of his profession. It is small consolation to know that there are other and able men ready to fill the gap. It is given to a small number only to leave behind them names with the classic stamp that will linger on through many, perchance through all, the coming generations. Dr. D. Argyll Robertson, of Edinburgh, has apparently attained the dignity of eponymic eternity, unless, indeed, our descendants adopt some more epexegetic method of nomenclature. That distinguished ophthalmologist, as many of our readers doubtless know, has determined this spring to retire to the mild and charming island of Jersey. In many ways Dr. Argyll Robertson is an admirable Crichton. Tall, handsome, popular, an excellent linguist, he has always been a notable athlete, and has been a prominent member of the Royal Bodyguard of Scottish Archers, one of the most ancient and honourable corporations in the United Kingdom. Born in 1827, he graduated M.D. of St. Andrew's in the year 1857, when just thirty years of age, and became a Fellow of the Royal College of Surgeons of Edinburgh in 1862. For many years he held the post of Honorary Surgeon Oculist to her late Majesty Queen Victoria, a position which he still retains in the Scottish Court of King Edward.

* * * *

Dr. Argyll Robertson's chief work has been done in the Royal Edinburgh Infirmary, where for many years he filled the post of Ophthalmic Surgeon. He was also Lecturer on Diseases of the Eye in the University of Edinburgh. From 1893 to 1895 he occupied the distinguished position of President of the Ophthalmological Society of the United Kingdom, of which Society, by the way, he was an original member. His most important scientific contributions include "The Calabar bean as a new ophthalmic agent," (1863) and "Eye symptoms in spinal disease" (1869 and 1870), which were published in the *Edinburgh Medical Journal.* The first-mentioned paper had much to do with the general adoption of eserine as a mode of treating glaucoma, and the second to the widespread recognition of the so-called "Argyll Robertson pupil" as a sign of locomotor ataxy and of general paralysis of the insane. That symptom is generally spelt, or rather "misspelt," with a hyphen between the two names. To be accurate, there should be no hyphen between the two names—in other words, Argyll is a Christian name and not one half of a double-barrelled surname. It must be admitted, however, that there is every excuse for the writer or printer's reader who inserts the hyphen, as it refers at once both names to their proper place as qualifying adjectives.

* * * *

Radium.

RADIUM is naturally exciting widespread interest in all branches of the medical profession. As abstracts in our columns have shown, it has not so far achieved much in eye work, whatever revelations the future may hold in store for us. In the course of a popular lecture delivered early in the present month at Folkestone, a certain Mr. Arnold Ulyett professed his belief that radium will prove of great use in detecting diseases of the eye. Radium renders itself luminous to the retina through a closed eyelid or through a cataract. In the latter case a surgeon would be justified in removing the opaque lens. This statement of Mr. Ulyett's amounts to nothing in particular, inasmuch as a similar result can be got by a simple ray of light from a candle projected from an ophthalmoscopic mirror. Mr. Ulyett, who is apparently not a medical man, has hit upon the old familiar "projection of light" test, known to the veriest tyro in ophthalmic surgery. Alas! poor Ulyett. One comfort is that the information about the radium is not likely to set up a great demand for that strange and eccentric metal amongst the blind of Folkestone. It is too costly a luxury to be used as a mere means of testing the sensitiveness of a retina when the same thing can be done by a candle and a mirror.

* * * *

The Optician Question.

THE opticians, although they never get much further in argument, yet keep on their practical road to the acquiring of their precious qualifying diploma. There is one crucial point about the optician who prescribes glasses, and that is, his incompetence. He is incompetent because he cannot use mydriatics. Without mydriatics and cycloplegics refraction cannot be practised efficiently. That is the first and the last word. Unless the spectacle makers take the next logical step and empower their optician *diplômates* to use mydriatics, they are spiked on the dexter horn of a dilemma. Their *diplômates* may legally test sight and order glasses, but they may not use mydriatics, without which refraction cannot be carried out. The value of a diploma under such circumstances is that of Hamlet with the part of the noble Dane omitted. It is a locomotive without a boiler, a rifle without a stock. Some day the great indolent, apathetic, lazy, careless, good-natured public will recognise the real state of matters. Then exit the sight-testing spectacle makers amid a burst of inextinguishable laughter. It would take the pen of a Rabelais to do justice to this shopkeeper who apes the dignity and emoluments of a learned profession.

* * * *

Radiography.

THOSE who work with the X-rays are acquainted with the conjunctivitis sometimes set up by exposure to the focus tube. The more common result is a tinea-like inflammation of the edges of the lids. One X-ray operator of our acquaintance, who has a pronounced idiosyncrasy against the focus-tube, has presented a peculiarly blear-eyed appearance ever since he entered into that particular field of work. Just as the dermatitis produced by the focus-tube exposure may vary in degree from a slight redness to a deep and dangerous slough, so, it may be reasonably assumed, may vary the conjunctivitis. The membrane, however, is so protected by either the shut or the blinking lid that dangerous effects are unlikely. For all that, it is well to be cautious in exposing healthy conjunctiva to the focus-tube. The marvellous therapeutic effect of the tube upon some cases of trachoma must be seen to be believed. *Crede experto.*

* * * *

Gratuitous Work.

THE amount of work that many people expect to get for nothing is simply amazing. At a Birkdale Education Sub-Committee meeting in January a lady member called attention to the necessity of looking after the bodily well-being of the children. She stated that the Blackburn Education Committee had appointed a medical man to examine the eyes of the school children, and that out of nearly 9,000 children it was found that nearly one-half suffered from defective eyesight. Fired with emulation at this result, the lady economist of Birkdale suggested they should invite some qualified oculist to make a tour of the children in their schools gratuitously. The delightful *naïveté* of this proposal in reality forms a delightful sarcasm on the foolishness of the medical profession, which is always ready to "spoil the market" by gratuitous service to all and sundry. The public has learnt to expect gratuitous and ill-paid work from medical men, an attitude that must sooner or later bring down disaster upon the heads of an honourable profession. Meanwhile, let our readers beware of Birkdale.

* * * *

THE

OPHTHALMOSCOPE.

A MONTHLY REVIEW OF CURRENT OPHTHALMOLOGY.

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ORIGINAL COMMUNICATIONS.

A CASE OF OPHTHALMOPLEGIA EXTERNA, WITH BLINDNESS OF ACUTE ONSET, IN A CHILD AGED FIVE YEARS.

By

FREDERICK E. BATTEN, M.D., F.R.C.P.,

ASSISTANT PHYSICIAN TO THE NATIONAL HOSPITAL AND TO THE CHILDREN'S HOSPITAL, GREAT ORMOND STREET, LONDON.

M. S., aged 5½ years, was the second in a family of three children. Thirteen weeks ago she had a severe attack of whooping cough from which she completely recovered in about five or six weeks, and was perfectly well till about two weeks ago, when she began to complain of headache and pains in the stomach and across the shoulders. She lost her appetite and was restless at night. For this she was kept in bed, and on getting up she walked unsteadily.

A week ago the mother noticed one morning that the child did not see, and the child asked her mother to bring a candle because it was so dark. The mother noticed at the same time that the pupils were very large and that the child could not move the eyes. There seems to be no doubt that previous to this the child had been able to see well. There had been no vomiting, no convulsions, and no loss of consciousness. The child was bright and intelligent. No drooping of the eyelids had been noticed.

On December 31st, 1903, the child was admitted to the Children's Hospital, Great Ormond Street, London, and the following notes of the child's condition were made :—

The child was well-developed and well-nourished. She was bright and intelligent and answered questions well. The eyes were widely open, and it was obvious that the child was blind. The child could not distinguish light from darkness. There was no ptosis. There was a slight external strabismus. There was complete loss of power in all the muscles of the eyeball, the child being unable to move the eyes upward, downwards, inwards, or outwards. No attempt was made to converge. There was no weakness of the orbicularis palpebrarum. Both pupils were dilated to the extreme and no reaction to light was obtained. On ophthalmoscopic examination, the following note was made : "The left disc is pale, the margins are clear, the arteries rather small, and the veins full. There is no definite optic neuritis. In the right eye there is blurring of the upper and lower margin of the disc, the vessels are tortuous, and one of them is covered up. There is a very small hæmorrhage above and to the inner side of the disc."

No paresis of any other muscle of the body was found; there was possibly slight incoördination of the right hand. The child walked with the hesitation of a blind person and tended to walk in a circle to the right, but was quite steady. All movements of the legs were strongly and well performed. All the deep reflexes were abolished, and the knee-jerks could not be obtained even on reinforcement. The plantar reflex was most variable ; on most occasions a definite flexor response was obtained on both sides ; but at times a very definite, slow, extensor response would be obtained.

Progress.—The power of movement of the eyes rapidly returned, the movements of the external rectus being the first to come back, and by January 5th the eyes could be moved upwards, downwards, inwards, and outwards. The pupils were still dilated and did not react to light. On January 7th the child was seen by Mr. W. T. Lister, who made the following note : "There is still some paralysis of the left internal rectus. The other movements are good. The pupils are wide and the media clear. There is blurring above and below both discs, with slight swelling of the margin, especially to the lower side of the left disc." On January 11th Mr. Lister again kindly saw the child, and made the following note: "The pupils are still dilated, but a definite, though slight, reaction to light is obtained. There is still slight left external strabismus, and the movements inward of the left eye are not as good as the inward movements of the right eye. The other movements are good. There is still swelling and blurring of upper and lower margin of the right disc, and in the left eye there is slight swelling at lower margin of the disc, the upper and lateral edges being clear."

The child complained of headache on one or two occasions and vomited twice, but apart from this, there was no disturbance of general health. The temperature, pulse, and respiration were quite normal.

At the end of January the child was up and walked about the ward, but there was no recovery of sight. The knee-jerks could not be obtained, and the plantar reflex gave a flexor response.

Blindness, some dilation of the pupils, some weakness of the left internal rectus and absent knee-jerks were the signs that remained after the other symptoms had cleared up.

Remarks.—The question arises, What is the pathological condition which gave rise to the symptoms in this case? There seems to be no doubt that the onset of the ocular symptoms was sudden, and was preceded for about a week by indefinite malaise and pains in the limbs. The whooping cough had been well for several weeks before the onset of the ocular symptoms, and there is no reason to think there was any connection between that disease and the occurrence of ophthalmoplegia.

The leading features of the case are complete paralysis of the third (excepting the fibres supplying the levator palpebræ), fourth, and sixth, nerves, and complete blindness with loss of deep reflexes.

It may be suggested that the condition is one of "neuritis" affecting the above nerves and due to some form of toxin, of which the best known is diphtheria, and the absence of the deep reflex might be thought to support this view. The fact that the disease was of sudden onset does not exclude the possibility of a "neuritis," for it is a well recognised fact that neuritis of toxic origin does sometimes have an acute onset. The fact, however, that there is no evidence of any general weakness or alteration of sensation in the limbs is very much against this view of neuritis, and it is well-known that the knee-jerks disappear in cases in which there is alteration in the intra-cranial pressure quite apart from there being any paralysis or even paresis of the limbs. The explanation of this inhibition of the knee-jerks in cases of cerebral tumour in certain situations is an interesting one, for it has been shown that in many cases it has an anatomical explanation, *viz.*, affection of the posterior roots of the spinal cord, and before any actual pathological lesion can be demonstrated there must be some functional disturbance of those nerve roots which might well give rise to abolition of the knee-jerks. The explanation of the abolition of the knee-jerks in cerebral disease is a very difficult one, but it is certain that alteration of intra-cranial pressure does give rise to the absence of knee-jerks.

The possibility of the condition being due to meningitis need not be considered.

The sudden onset of the disease and the rapid recovery seem to point to a vascular lesion, and the subject may be dealt with under two heads :—

(1) What is the nature of the lesion ?
(2) What is the situation of the lesion ?

(1) *What is the nature of the lesion ?* It has already been stated that the sudden onset points to a vascular lesion, and the condition may be due to hæmorrhage, to embolism, or to thrombosis.

With regard to hæmorrhage. A primary hæmorrhage without any cause is an uncommon lesion in a child, but a hæmorrhage into a gliomatous tumour may readily occur. A glioma may grow to a considerable size and invade the structures of the basal ganglia without giving rise to any symptoms, and it is possible that in this case a glioma had invaded the basal ganglia and a hæmorrhage has taken place into the region of the corpora quadrigemina and pulvinar, giving rise to the acute symptoms which passed off as the hæmorrhage became absorbed. In favour of this view may be stated the presence of slight optic neuritis with some headache, and the vomiting which was present on two occasions. The absence of the knee-jerks would then be explained by the presence of the tumour.

With regard to the condition being produced by an embolus, that view may be dismissed at once, for there is no source from which the embolus might arise, and, second, and more important, there is no vessel the blocking of which would give rise to the symptoms present in this case, which would not at the same time have caused far graver signs and probably death.

The view that thrombosis of some vessel or vessels was the cause of the disease was next to be considered. That the condition was due to a thrombosis of one of the larger vessels is unlikely, for the same objections would apply as have been suggested in the case of an embolus. On the other hand, that the condition was due to a thrombosis of the finer vessels seems most probable. The onset of the ocular symptoms was preceded by a week of malaise with pain in the limbs suggestive of some toxic process for which the name "influenza" is convenient. The symptoms came on during the course of that disease and were not attended by loss of consciousness or convulsion. Anterior poliomyelitis although often acute in its onset, yet at times comes on during the course of some illness, or is preceded by malaise or fever. The course which the disease pursued is very similar to that seen in anterior poliomyelitis, *viz.*, at first an extensive paralysis, which rather rapidly clears up leaving a localised paralysis of a more or less permanent character. That the lesion should affect the grey matter to the greatest extent is only to be expected from what is known of the disease in other situations, and it has been shown that the disease will pick out the seventh cranial nucleus on one side, leaving both sixth nucleus and the opposite seventh nucleus intact.* The question whether the thrombosis is primary or secondary to inflammation is a question that need not here be discussed.

It seems, therefore, probable, that the lesion is due either to a hæmorrhage into a gliomatous tumour situated in the basal ganglia or to a polio-encephalitis inferior. The presence of slight optic neuritis which rapidly cleared up and the absence of the knee-jerks do not, in my opinion, militate against the latter view.

(2) *What is the situation of the lesion?* A multiple and symmetrical affection of the peripheral portion of the second, third, fourth, and sixth nerves may be excluded. A lesion at the base of the brain between the crura cerebri would account for the involvement of both third nerves but could hardly explain the complete paralysis of the other nerves. The most probable situation of the lesion would seem to be in the region of the anterior corpora quadrigemina and posterior portion of the optic thalamus involving the pulvinar and the external geniculate bodies.

Two difficulties in accepting this view present themselves: the first is that that portion of the third nucleus which supplies the levator palpebræ was unaffected. The nerve cells which supply this muscle are situated toward the anterior portion of the nucleus and therefore might escape, but the cells for the sphincter iris are, according to Edinger, situated still more anteriorly than those of the levator palpebræ, and since the

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**Pathological Society Trans., Vol. 54, page 59, 1903.*

sphincter was involved in both eyes, it seems difficult to explain why the leviator should escape. The second difficulty is in accepting the view that both sixth nuclei were affected, and considering the close proximity of the fibres of the facial nerve it is difficult to see how they should escape, for there was no facial paralysis. This, however, does not seem to me to be so great a difficulty, for it is known that the grey matter may be very extensively involved without destroying the conductivity of the medullated fibres in the region affected.

The most probable explanation of the case would seem therefore to be, that there has been a polio-encephalitis inferior affecting the region of the corpora quadrigemina and the external geniculate bodies, but the possibility of a hæmorrhage into a gliomatous tumour cannot be excluded. The future course of the case can alone decide the point. At the present time the child is well, except for the complete loss of vision.

A very similar case was reported by Mr. B. W. Gowring in the *British Medical Journal*,† December 26th, 1903, and in that case bilateral ptosis, paralysis of the ocular muscles, and external strabismus came on suddenly during an attack of whooping cough. There was no blindness, and the boy made a complete recovery. Mr. Gowring regards the attack as probably due to the same process which produces acute anterior poliomyelitis.

THE MIDDLEMORE LECTURE, 1903.

BACTERIAL DISEASES OF THE CONJUNCTIVA (*Continued*).

By Jameson Evans, M.D., F.R.C.S.,

SURGEON TO THE BIRMINGHAM AND MIDLAND EYE HOSPITAL.

3. The Morax-Axenfeld Diplobacillus.—This organism was discovered by Morax and Axenfeld separately in 1896. It is a small, plump bacillus, 2 to 4μ long, and about 1μ broad. It is formed of two short rods separated by a fine line. They usually occur in pairs, but occasionally several may lie in contact by their extremities forming little chains. The bacillus generally lies free, but it may be encapsuled in leucocytes or epithelial cells. It is nonmotile, nonsporing, and aërobic. It stains with:—

1. Aniline dyes, *e.g.*, methylene blue and fuchsin (diluted).

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†For abstract of the case referred to by Dr. Batten, see page 191 of the present issue of the Ophthalmoscope.

2. Pick and Jacobson's stain.*

It is decolourised in Gram's process.

The artificial media best suited for its growth are :—

1. Slightly alkaline serum.
2. Slightly alkaline blood agar.

Human or animal serum is almost essential to its growth. It will grow well in bouillon to which ⅓rd of its volume of human serum has been added. After 24 hours growth on serum, a great number of small, transparent, punctiform colonies, with festooned contours, appear (*c.f.* pneumococcus). They become more evident and opaque after a few days, but nevertheless they maintain a certain transparency. These small colonies form little pits by liquefying the serum and hence the name "bacillus lacunatus," which has been applied to it. In stab cultures the growth takes place only on the surface; a few greyish colonies may become visible in the upper part of the track after a few days. After a few weeks the serum becomes completely liquefied by peptonisation. After 4 or 5 days, involution forms, as long threads and coccus-like bodies, appear in the growth. The diplococcus is easily killed—a temperature of 58° C. for 15 minutes will destroy it.

This bacillus is non-pathogenic to animals. In the human conjunctiva it gives rise, after 3 days' incubation period, to a mild (subacute) form of conjunctivitis which is contagious.

4. STAPHYLOCOCCUS.—This is a spherical coccus of about 1μ diameter. It is arranged in clusters.

It stains well with :—

1 Aniline dyes, and
2. Gram's method.

The organism grows best at body temperature (and also at room temperature) on agar, peptone-gelatin, gelatine, or bouillon. An agar stroke culture, after 24 hours' growth at 37° C. is seen as a line of abundant yellowish (aureus), white (albus), or lemon (citreus) growth with a smooth, shining surface. In gelatine, small granular microscopic balls are visible after 24 hours. On the 2nd day, whitish-yellow points appear, which indicate liquefaction of the gelatine. At the end of about 3 weeks most of the jelly is liquefied. It renders media acid and sour, and coagulates milk. The organism is very tenacious of life—often living for several months.

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*Pick & Jacobson's stain :—

Satd. Soln. of Methyl. blue in absol. Alcohol	8 drops.
Ziehl's Fuchsin.	15 ,,
Aqua destillat	20 c.c.

Stain for a few seconds and wash with water. The protoplasm of the leucocytes and epithelial cells is coloured rose; the nucleus blue; and the micro-organism; take on a very deep blue or violet. The mixture will only keep a few days, but the original solutions will keep indefinitely.

5. STREPTOCOCCUS.—Morphologically this organism is about the same size and shape as the staphylococcus, but instead of being arranged in irregular groups, it is arranged in chains. It stains with basic aniline dyes and Gram's stain.

On artificial culture media, *e.g.*, agar and gelatine, it grows much less readily than staphylococcus. On agar, after 24 hours or more, small, semi-transparent, circular discs appear. These show a great tendency to remain separate (*c.f.* staphylococcus). The separate colonies remain small, rarely exceeding 1 mm. in diameter. They often die in about 10 days at body temperature. In gelatine stab culture they appear as a row of minute rounded colonies of whitish colour, which may be separate at the lower part of the puncture. The growth does not spread on the surface, and no liquefaction of the medium takes place.

It is questionable how far these pus organisms are the cause of catarrhal ophthalmia. Probably the ophthalmia associated with impetigo and lacrymal inflammation is due to staphylococci. The disease caused by staphylococci is mild, and very often associated with phlyctenular conjunctivitis or keratitis.

Streptococci are associated with the more severe forms of catarrhal conjunctivitis, and especially with the forms in which there is a formation of membrane on the palpebral conjunctiva.

Other pus organisms, *e.g.*, B. Coli Commune, B. Pyogenes fœtidus, B. Pyocyaneus, Micrococcus Tetragenus, have been found in some cases of conjunctival catarrh.

TREATMENT.—In the treatment of catarrhal conjunctivitis, we have three main objects in view, *viz.*,

1. To prevent the disease spreading.
2. To destroy the microbe and its products.
3. To relieve symptoms.

1. In the first place we must adopt means, well recognised for all contagious diseases, to prevent the disease spreading to the patient's second eye (if only one eye is attacked), or to his neighbour's eyes. None of these types of conjunctival catarrh are air-borne as far as can be judged. Contagion is due to direct contamination by fingers, towels, handkerchiefs, etc. The surgeon should, therefore, give strict injunctions to the patient and his friends, on no account to apply any article used for the infected eye to the sound eye, or allow anyone else to use such an article. In schools it is well to isolate the children as far as possible and give them a special set of toilet articles, which should be washed and disinfected on the premises.

2. The direct method of attacking the disease consists in antiseptic and mechanical cleansing of the conjunctival

sac. It is well, before applying strong antiseptics, to wash off as much as possible of the discharge. For this purpose it is hardly necessary to use powerful antiseptic solutions. A lotion of boric acid or borax and soda is far less distressing to the patient than one of perchloride of mercury, formalin, or chinosol, and will probably be equally efficacious for the purpose of removing the discharge. The strong antiseptic is best applied by means of a little absorbent wool twisted round the end of a glass rod. It may also be applied with a a camel hair brush. The lids are everted and their conjunctival surface dried. The absorbent wool or brush is dipped in the antiseptic solution and then gently rubbed over the palpebral conjunctiva, care being taken to apply it thoroughly, especially to the retrotarsal folds, and to prevent the solution from running over the cornea. Any excess may be soaked up with cotton wool or washed off with dilute salt solution. One application a day for three or four days is generally sufficient to stop the discharge.

The solutions generally used are:

Silver nitrate, 2%. Protargol, 10% to 50%.
Argyrol, 10% to 50%.

Silver nitrate is the most economical and possibly the most efficacious, as it contains the largest percentage of silver of the three compounds, but it gives rise to a great deal of painful reaction. Protargol and argyrol give little pain, and, in my hands, they have yielded very good results. Besides these applications, which must be made by the surgeon himself, I am in the habit of giving the patient some mild antiseptic lotion, *e.g.*, boric acid lotion, and weaker drops of protargol or argyrol to use at home. I generally prescribe 2°/₀ to 5°/₀ protargol or argyrol to be instilled three times a day. The lotion is applied by means of small swabs of absorbent cotton wool, soaked in a small quantity of the lotion poured out into a cup. Both the wool and lotion used are thrown away afterwards, and thus the danger of contagion is minimised. It is better not to use sponges, syringes, or eyecups, as they are difficult to sterilise and may be the means of conveying infection to a sound eye. The pipette used for instilling the drops may be cleansed and dipped into boiling water after use, so as to make sure that any adherent discharge may be rendered sterile. A word of warning is necessary with regard to the use of the compounds of silver, especially their prolonged use in the form of drops. After a variable time they stain the conjunctiva a dirty-brown colour, producing what is called "argyrosis." Protargol is as liable to produce argyrosis as is silver nitrate. If, therefore, it is found necessary to use antiseptic and astringent drops for more than two or three weeks, the silver drops must be replaced by those of zinc sulphate or chloride (¼–½%), or copper sulphate (¼–½%), or mercurol (2–4%). All of these may be conveniently combined with cocain, *e.g.* :—

Cocain Hydrochloride	8 gr.
Zinci Sulphat. .	1 gr.
Aqua destill. . .	1 oz.

The sulphate or chloride of zinc has been strongly recommended for diplobacillary and pneumococcus conjunctivitis. A strength of 2% should be used for acute cases. Such drops are irritating, but the pain can be allayed by the addition of cocain and adrenalin :—

Zinc. Sulphat. .	8 gr.
Cocain Hydrochlor. .	8 gr.
Liq. Adrenalin Chlor. .	1 dram.
Aqua destill. ad. .	1 oz.

At night a little ointment of a non-irritating character should be applied along the edges of the lids to prevent them sticking together. The weak yellow oxide of mercury ointment (1%), or ung. hydrarg. ammon. (1%) or Unna's ointment of peroxide of hydrogen* is suitable for this purpose.

3. Distressing symptoms should be attended to. Photophobia should be relieved by wearing shades or coloured glasses. Bandages are to be avoided, as the application causes the retention of the discharge in the conjunctival sac and this increases discomfort and aggravates the disease. It should always be borne in mind that shades and protectors, after being worn by the patient, are contaminated and form a possible means of conveying infection to others. Corneal and iridic complications require careful attention. Atropine should be added to the remedies in such cases, and if the general health be below par, the patient should be given tonics, *e.g.*, quinine, iron, or strychnine. It is seldom necessary to use more powerful agents, such as the cautery, to catarrhal ulcers of the cornea..

GONORRHŒAL OPHTHALMIA.

"*Gonorrhœal Conjunctivitis, also called Purulent Ophthalmia, or Acute Blennorrhœa of the Conjunctiva.*" When it occurs in newly-born children it is known as *Ophthalmia Neonatorum.*

This disease is fortunately not nearly so common as the catarrhal or muco-purulent form. It constitutes less than 1% of all cases attending this hospital. It is highly destructive to sight and is the cause of more blindness than perhaps any other single disease. It has been shown that 13% to 46%

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* Soln. Peroxide of Hydrogen
Lanolini
Vaselini Aa partes equales ft. ung.

of the inmates of blind asylums have been rendered blind by this disease.

The symptoms vary according as the disease occurs at birth or later in life.

(*a*) OPHTHALMIA NEONATORUM comes on 1 to 3 days after birth. It is characterised by redness and puffiness of the lids and a discharge which is serous and whey-like at first. As the lids get more swollen and hot, the discharge becomes purulent and more abundant. The conjunctiva is intensely congested, chemosed, and often ecchymosed. Ulceration of the cornea and iritis are very liable to occur. Unless the discharge is speedily arrested, the palpebral conjunctiva becomes thickened and covered with highly vascular granulations. The disease generally affects both eyes.

The infection is derived from gonorrhœal discharge in the maternal passages during parturition. A few cases have been recorded where infection seems to have occurred *in utero* and with intact membranes. It is quite conceivable that the organism can penetrate the membranes.

(*b*) ACUTE BLENNORRHŒA OF ADULTS is more common in men than in women and is generally one-sided. The infection is derived from the genitals or from an infected eye. A form of acute blennorrhœa is said to be occasionally produced by infection of the eyes with the leucorrheal discharge of strumous vaginitis in young girls.

In this form of the disease the symptoms are more severe, and danger to sight is much greater than in ophthalmia neonatorum. The chemosis of the conjunctiva is very pronounced, so that it becomes a difficult matter to open the lids and to see the cornea. This stagnation of blood and lymph circulation in the conjunctiva, by masses of cocci which block the lymph channels, leads to malnutrition, infiltration, ulceration and perforation of the cornea, with which is associated an inflammation of the iris. The pain in such cases is generally great, and constitutional symptoms, such as slight feverishness and malaise, are present. Complications of a serious nature may be met with. In ophthalmia neonatorum perforation of the cornea may be followed by anterior polar or pyramidal cataract, owing to the damage to that part of the lens which becomes applied to the opening in the cornea. In both forms we may meet with abscess of the lids or lymphatic glands, tenosynovitis, arthritis, pericarditis, endocarditis, pleurisy, or meningitis.

(*To be concluded.*)

CLINICAL, PATHOLOGICAL, AND THERAPEUTICAL MEMORANDA.

INTERSTITIAL KERATITIS AND ITS RELATION TO INJURY.

By

H. Work Dodd, F.R.C.S.,

OPHTHALMIC SURGEON TO, AND CLINICAL LECTURER ON OPHTHALMIC MEDICINE AND SURGERY AT, THE ROYAL FREE HOSPITAL, LONDON, ETC., ETC.

Three cases of double interstitial keratitis, which began immediately after an injury to the eye, have come under my notice recently.

The patients were young men, who showed undoubted signs of being congenital syphilitics.

The first case came to me complaining of a small central superficial corneal wound in the right eye, which, he stated, had been caused by a little piece of metal "jumping up" and hitting him while he was at work. I watched the case develop into ordinary interstitial keratitis in that eye, and saw the left one follow in the way usual in congenital syphilis. Clinically there is nothing peculiar to record ; he became an ordinary case of double interstitial keratitis, ultimately proceeding towards recovery in the customary manner.

The second case was the result of a superficial injury to the cornea, caused by a mosquito bite. This also developed into double interstitial keratitis, presenting nothing out of the way, and going through the usual course.

The third case began after a blow on the eye by a football. Here there was no corneal wound, but the injured eye developed interstitial keratitis, and subsequently the second eye did likewise.

After watching the first case through its changes, I was inclined to put down the onset of the interstitial keratitis in the two eyes as being coincidental. When, however, the second case and then the third came before me, I could not doubt their being caused by the injuries the eyes had received. The fact that the patients were all subjects of congenital syphilis, possibly ready to develop interstitial keratitis, seems to indicate that the injuries the eyes had been submitted to precipitated the trouble.

It is a point, perhaps, of practical every-day interest to mention that the first man's father was most desirous of obtaining full pecuniary compensation from the employer for the damage done to his son's eye. He threatened legal proceedings in a somewhat assertive manner, but law was un-interesting to him when he discovered the true, underlying cause of his son's trouble, and he became humble and expressed himself as being grateful for very small monetary mercies.

The text-books say practically nothing on the subject of keratitis of this variety and its relation to injury, and this is my excuse (if such excuse be needed) for drawing attention to the above cases, which have been of considerable interest to me.

CASE OF ASSOCIATED MOVEMENT OF EYELID AND JAW.*

By

GEORGE C. HARLAN, A.M., M.D., Philadelphia, Pa., U.S.A.

A.G., aged four years, was referred to the eye department of the Pennsylvania Hospital from the medical clinic by Dr. George W. Norris, on account of a spasmodic twitching of the left eyelid during mastication. The patient was a well developed child of good intelligence, without any other signs of either local or general disease. The pupils, the movements of the eyeballs and the lids, and the ophthalmoscopic appearances were normal.

The father had for many years been subject to occasional attacks of insanity, and the mother had goitre. There were nine children, six of whom were living. There were no miscarriages. The patient had had diphtheria when six months old, but he recovered without any complications. At two years of age he had had typhoid fever; immediately afterwards, his mother states, the affection of the eyelids was noticed.

Examination showed that during the process of mastication there was an energetic and rapid winking of the left eye, which gave the impression of blepharospasm and was entirely beyond the patient's control. When the boy was seen again some weeks later, the movement of the lid was much slower, but it was still decided: and it was evident that it was due to contraction of the levator. It was coincident with the opening of the mouth, and was more decided when the patient looked down. There was a just perceptible ptosis. When the boy looked directly forward the right upper eyelid just reached the margin of the cornea, while that of the left eye covered it. The movements of the lids and eyeballs were otherwise normal, the pupils were equal, the irides were active, and the ophthalmoscopic appearances were normal.

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*Read before the Section on Ophthalmology of the College of Physicians of Philadelphia, February, 1904.

Remarks.—I find that, since attention was first called to the subject, by a case reported by R. Marcus Gunn in 1883 (*Transactions of the Ophthalmological Society of the United Kingdom*, Vol. III), quite a number of cases of so-called "jaw-winking" have been recorded. Sinclair in 1895 (*Ophthalmic Review*, October, 1895) reported six cases occurring in his own practice, and collected twenty-six others from literature. He says the condition most frequently met with is the following: "There is one-sided congenital ptosis varying in degree, and with or without paresis of the superior rectus. The drooping eyelid cannot be voluntarily raised, but is vigorously raised when certain movements of the lower jaw occur. The movement is strictly limited to the levator muscle and the patient cannot control it." Of the thirty-two cases collected by Sinclair, there was a decided ptosis in all but three, and one of these three is recorded as doubtful. A committee, consisting of Gowers, Mackenzie, Lang, and Abercrombie, appointed by the Ophthalmological Society to study Gunn's case, reported, as the simplest explanation, that the levator was innervated both from the nucleus of the third nerve and from the external pterygoid portion of the nucleus of the fifth nerve. Ole Bull and others think that the movement in these cases is purely reflex, and is simply what we note in children with blepharospasm when they open their mouths in their efforts to open their eyes. Hilfrich has suggested that the abnormal nerve fibres may come from the nucleus of the facial. N. Bishop Harman, in an article on the innervation of the orbicularis, in which he opposes the view of Mendel and others that this muscle receives its nerve supply from the nucleus of the third, has suggested an ingenious explanation (*Transactions of the Ophthalmological Society of the United Kingdom*, 1903). He states that in the shark, the fifth and the seventh nerves are so closely associated that they are commonly known as the "facial complex," and that the orbito-spiracular musculature innervated by this facial complex is the primitive ancestor of the complicated facial musculature of man. In the fish, when the mouth is opened, the spiracle dilates, and it is a revival of this which we see in these curious cases of "jaw-winking" movement. In other words, it is an atavistic anomaly. There is a weak levator and during the action of the pterygoid there is an associated relaxation of the orbicularis which enables the weak levator to raise the eyelid.

The case just recorded differs from others in not being a congenital condition. As the child's mother is more intelligent than the average of her class and was very closely questioned, it is believed that her account can be relied upon. Of course, no morbid process could transfer a nerve fibril to another nucleus, and no explanation that supposes an abnormal nerve supply will serve our purpose. Perhaps the case lends itself better to Harman's theory than to either of the others, as we have only to suppose a weakened levator.

CURRENT LITERATURE.

NOTE.—Communications of which the titles only are given either contain nothing new or else do not lend themselves to abstract.

I.—ANATOMY, PHYSIOLOGY, PATHOLOGY, AND BACTERIOLOGY.

(1) **Coppez, Henri.—The examination of the pupil. (L'exploration de la pupille.)** *Revue générale d'ophtalmologie*, 28 février, 1903, and *Archives d'ophtalmologie*, février, 1903.

(2) **Fuchs, Alfred.—How to measure the size of the pupil and the reaction-time in some forms of mental and nervous disease. (Die Messung der Pupillengrösse und Zeitbestimmung der Licht-Reaction der Pupillen bei einzelnen Psychosen und Nervenkrankheiten.)** *Jahrbücher für Psychiatrie und Neurologie*, 24 Band, 2-3 Heft, 1903.

(3) **Bach, L.—Studies upon the pupil. (Pupillenstudien.)** V. Graefe's *Archiv. f. Ophthalmologie*, Bd. 57, 2 Heft, Dezember, 1903.

The three papers of Coppez, Fuchs, and Bach deal with the pupil, although from somewhat different points of view.

(1) There is no standard way either of examining the pupil or of recording the results. In the present communication Coppez tries to remedy these defects. The author first briefly discusses the innervation of the pupillary movements, and, in doing so, admits the existence of a dilator pupillæ. The following are the precautions that should be taken, and the points to which, in Coppez's opinion, attention should be devoted during investigation of the pupils. To examine the photo-reflex, the patient is seated by a well-lighted window, direct sunlight and reflections from white walls being avoided. Investigations should not be undertaken on days when the light is likely to change suddenly from the passage of dark clouds across the sky, and for similar reasons when the day

is drawing to a close. Artificial light, as proposed by Bach, is not to be recommended. No measurement is to be taken until the patient has been seated before the window for at least two minutes, to allow of adaptation. Under these circumstances pupils, in the physiological state, measure 2mm. to 4mm. in diameter, and mostly vary from 2.5mm. to 3mm. Above or below the last-named measurements some pathological change should be suspected. Coppez appears to think that the readings of so-called pupillometers are apt to be inexact, and he states that, with a little practice, the diameter of the pupil can be estimated to within half a millimetre. The result of this examination of the relative size of the pupils is recorded in the following simple way :—

$$\text{R.}\ \left\{ \begin{matrix} < \\ = \\ > \end{matrix} \right\}\ \text{L.}$$

The absolute diameter of one pupil in a state of rest is taken after the other eye has been kept covered for a minute or so with a black silk shade. The process is then repeated for the other eye. In order to determine the direct action of the pupil, one eye is covered, and the hand is passed rapidly before the other eye, and in this way one notes whether the movements of the latter are normal, diminished, or abolished. The other eye is then examined in its turn, and the results are noted thus:

$$\text{R.}\ \left\{ \begin{matrix} \text{Normal.} \\ \text{Diminished.} \\ \text{Abolished.} \end{matrix} \right.\quad \text{L.}\ \left\{ \begin{matrix} \text{Normal.} \\ \text{Diminished.} \\ \text{Abolished.} \end{matrix} \right.$$

To estimate the indirect action, both eyes are covered with the surgeon's hands, and one pupil is watched closely whilst the other is quickly covered and uncovered by the hand. Results recorded as above. During these several examinations the patient must look towards distance through the window, and the surgeon must be careful to avoid any shadows being thrown by his body upon the eye. The variations of the pupil during convergence and accommodation are to be noted by getting the patient to fix an object at about thirty centimetres from his eye. Coppez attaches considerable importance to the action upon the pupil of such agents as mydriatics and myotics. Cocaine and atropine, as everybody knows, both dilate the pupil, but not by means of the same mechanism. Cocaine produces mydriasis by excitation of the dilator fibres, and atropine by paralysis of the constrictor fibres. Coppez gives examples of the way in which the employment of atropine and cocaine may facilitate diagnosis. H. DE V.

(2) The perusal of this very instructive paper will well repay the reader, although he will find it somewhat encumbered by details referring to methods which are merely of historic interest. The size of the pupil is not, as is sometimes thought, proportionate to the brightness of the illumination but depends altogether on the condition of adaptation of

the eye (Schirmer); thus that exactly the same strength of light may act as a contractor or dilator, according to the condition before it came into action. The minimum to which the pupil contracts is retained for a moment only, to be succeeded by a moderate dilatation, and after a few further small fluctuations, by the condition of relative rest (Heddaeus). This is the normal form of light reaction, although some authors have considered it peculiar to various forms of nervous troubles. Haab has shown that the mere fact of drawing the attention to a source of light or of reproducing in one's memory the idea of light is sufficient to cause reaction of the pupil, and in the same way the idea of pain, terror, etc., gives rise to differences in the pupil (Pilz). Most authors agree that the great importance commonly attributed to the colour of the iris, refraction, etc., as determining the size of the pupil, are overrated, while old age certainly leads to decrease of the size of the pupil. The first to introduce photography as the means of fixing the reactive changes of the pupil graphically was Bellarminoff, but Fuchs has greatly improved the apparatus. The photographic plate is made to slide along by the action of well-regulated clockwork, while a diaphragm is inserted to limit the photographic impression to the greatest meridian of the pupil only. The author is able to satisfy himself that the result of direct reaction is equal to the result of indirect reaction of the pupil (while Bach arrives at different results), and that also the beginning and the velocity of both are about the same. It is impossible, and perhaps not necessary, to enter more thoroughly into the contents of the second part of this paper, in which the author deals with the extent and promptitude of the reaction in several nervous affections. It may suffice to mention that the reaction is considerably more sluggish in hysteria than, for instance, in neurasthenia and epilepsy, so that especially with regard to the latter complaint this difference may possibly be of clinical importance and serve to determine the diagnosis. The pupils also act very sluggishly in case of chronic alcoholism, and the degree of pupillary inactivity may even be considered as commensurate with the gravity of the particular case. In tabes the excursion of the pupil is not only much less but also much slower. Fuchs' article is well illustrated by photographs, and the original should be read by all interested in this intricate and obscure subject.

R. GRUBER.

(3) Bach, too, lays great stress on the clinical importance of the exact determination of pupillary activity, but his methods are much less elaborate, and more adapted to the consulting room than to the laboratory. He seems

to neglect the effect of complete adaptation, and, in consequence, his results are in more than one respect contradictory to the ones recorded in the second paper. The author enters extensively into a discussion of the nervous apparatus which underlies the movements of the pupil, and recapitulates the results which he has recorded in prior communications. He does not think that Argyll Robertson's phenomenon is due to an affection ot the nuclei of the oculomotor, but assumes the existence of inhibitory centres for both contraction and dilatation of the pupil situated close to the spinal extremity of the fourth ventricle near the middle line. In tabes he thinks these centres to be in a condition of chronic irritation, while myosis is due to the comparatively stronger sphincter muscle prevailing. The author then proceeds to state the symptoms afforded by the pupil as found in the various affections of the eye and of the nervous system. R. GRUBER.

Bach, L.—What do we know about the Centres and Paths concerned in the pupillary reflex? (Was wissen wir über Pupillenreflexcentren und Pupillenreflexbahnen?) *Zeitschr. f. Augenh.*, Feb., 1904.

This paper is too long for condensation. The chief results are as follow:—

That at the spinal end of the floor of the fourth ventricle, near the middle line and in close proximity to the respiratory centre, there is a well-defined, circumscribed zone, which is of great importance in the light reflex of the pupil; the action of which can best be explained by assuming that it is a reflex-inhibitory centre. This centre is a crossed one.

In front of the posterior corpora quadrigemina there is a subsidiary reflex, centre.

In close proximity to the light reflex inhibitory centre there is a second inhibitory centre for the movements leading to a dilatation of the pupil; this in addition to the assumed centre for dilatation of the pupil.

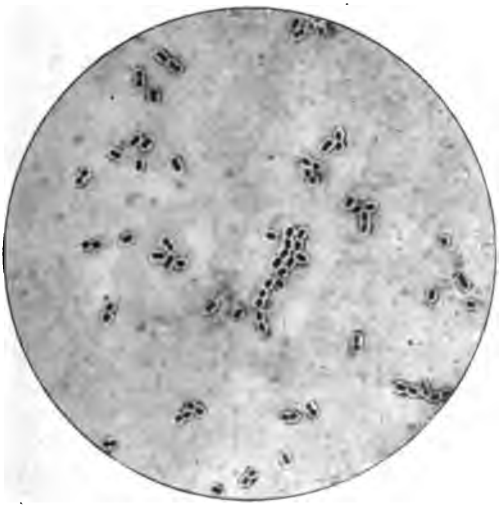
That there are important secondary centres in various parts of the cerebro-spinal system which control dilatation of the pupil. A. LEVY.

Jemma, R.—A new method of finding the tubercle bacillus in cephalorrachidian fluid. *Rivista di clinica pediatrica*, June, 1903, and *Archives of Pediatrics*, January, 1904.

The author recommends the so-called "mammary method" for the determination of the presence of tubercle bacilli in cerebro-spinal liquid obtained for diagnostic purposes by lumbar puncture. Ordinarily the usual method of inoculation is very tedious and not always trustworthy. The new method was introduced into experimental pathology by Nattan-Larrier and Griffon. It consists in injecting the suspected liquid into the mammary gland of a guinea-pig during her period of lactation. If tubercle bacilli are present in the fluid, the animal will have a culture of these bacilli in the mammary gland and the milk examined daily will, after a short time, show these germs in large numbers. They may be stained in the usual manner and replanted on other culture media. The author examined three cases of tuberculosis by injecting the cerebro-spinal fluid into the mammary glands of guinea-pigs. He concludes that this method is very valuable as a means of diagnosis in suspected tuberculous meningitis. If we inject the fluid into the peritoneum we must wait about four weeks for the animal to die, in order to establish the diagnosis of tuberculosis. The inoculations with the new method must be made within two or three days after the guinea-pigs had born offspring, for after fifteen days the secretion gradually disappears.

Gordon, M. H.—Capsule formation by diplococcus pneumoniæ in culture. *British Medical Journal*, 19th March, 1904.

From an ophthalmic standpoint, the pneumococcus possesses considerable practical importance. It may be as well, therefore, briefly to abstract an article by Gordon with reference to the formation of capsules in culture, a point that may prove to be helpful diagnostically. Gordon has observed that cultures and subcultures of the pneumococcus in 12 per cent.



The pneumococcus, showing capsules in culture.

gelatine, after incubation for seventeen to twenty-four hours, show, when suitably stained, undoubted capsules around the organisms. A drop of the gelatine culture—which is, of course, fluid at incubation temperature—is spread over a cover glass, dried over the flame, and immersed in alcohol for one minute. The smear preparation is then placed in carbol fuchsine for one-half to three minutes. It is next merely dipped into water, mounted in a drop of water on a slide, and examined with 1-12 inch oil immersion lens. Although it is difficult to obtain permanent preparations, yet the accompanying photograph was made from such a specimen, which was obtained by staining deeply with carbol fuchsine, only slightly dipping in water, and then, after drying, passing through xylol and mounting in balsam in the usual manner.

Hilbert, Richard.—Upon yellow vision after Santonin. (Über Gelbsehen nach Santonin.) *Die Ophthalmologische Klinik*, 20 März, 1904.

Some minutes after 3 cm. of santonin had been administered by Hilbert to his daughter, aged 14 years, a lively sense of yellow was complained of. Upon examination with Heidelberg coloured papers, pale blue was described as "blue-green," and light violet as "dirty yellow-red." The other colours were named correctly. Hilbert attempts to explain these colour-anomalies. S. S.

(1) **Wood, Casey A.—The various methods of preserving and mounting gross eye preparations.** *Journ. American Medical Association*, September 26, 1903.

(2) **Santucci, L.—Some modifications in Priestley Smith's recent method of preparing and preserving the bisected eyeball. (Qualche modificazione al nuovo processo di Priestley Smith per la preparazione e conservazione degli emibulbi.)** *Annali di Ottalmologia*, Vol. XXXII, Fasc. 11-12, p. 814.

(1) This is the report of the Committee upon the pathological preparations at the section of ophthalmology at the American Medical Association, New Orleans, May 5th to 8th, 1903. The members of the Committee included Drs. Casey A. Wood, H. V. Würdemann, and E. A. Shumway.

The older methods of preserving the enucleated eyeball were crude in the extreme, and it was not until the year 1883, when Priestley Smith devised his well-known plan of mounting the bisected eyeball in a glass receptacle containing gelatine, that any decided advance was made. The method in question is fully described in the pamphlet before us. Treacher Collins' suggestion, namely, that in order to magnify the specimen, a plano-convex lens be cemented to the upper surface of the jar, is mentioned. Dixon (*New York Ear and Eye Infirmary Reports*, January, 1898) hardens the punctured eyeball in 10% formalin for twenty-four hours, and when it is wished to retain the vitreous, employs alcohol, 25% to 80%, gradually increased in strength by 10 per cent. daily. Alcohol is removed by placing the globe in from ten to twenty times its volume of water for twenty-four hours. When the eyeball has settled down to the bottom of the vessel, enough alcohol has usually been removed to allow of freezing. For the latter purpose a box, some seven inches square, is employed. The globe is wrapped in oiled silk, and placed in the box, previously filled with mixed pounded ice and salt, and allowed to remain for one hour. When removed, the frozen eyeball is rested on a piece of cork, and quickly bisected with a thin, sharp knife. The hemispheres are placed in distilled water to thaw, and are then passed in succession through chloral hydrate (5%), and glycerine, 33% and 50% respectively. The specimen will then be fit to mount in glycerine jelly. The formula recommended for the jelly is gelatine 1 part, water 8 parts, and glycerine 8 parts. White of egg is used to clear the jelly, which must be filtered through absorbent cotton and not through flannel, as generally recommended. In order to preserve the jelly, a little carbolic acid is added. Light should be excluded as much as possible for the stock jelly flasks. The mounted specimen may with advantage be exposed to the vapour of formalin under a bell-jar, for if so treated, it is less likely to run in hot weather, but exposure must not be too long. Porcelainized glass is the most satisfactory material for sealing the open end of the glas jar, and it is fastened into place with Stratena or Major's cement, applied hot. To protect the specimen still further, the jar may be cemented into a square wooden base, countersunk in the middle about a quarter of an inch. The fact that light tends to darken gelatine suggests the wisdom of shielding the mounted specimens from strong light. Dixon now dries the specimen more thoroughly with calcium chloride under a bell-jar, and employs Bell's cement, as well as the ones named above, for the purpose of cementing the bottom on, and he then applies two or three coats of zinc white to the joint. Goldberg adds pure formalin to the glycerine jelly after filtration, and claims that this prevents the medium from melting in summer heat. Greenwood fixes the eye for one to four days in the following solution: formaldehyde, 200; water, 1,000; nitrate of potassium, 15; acetate of potassium, 30. The eye is then placed for one to six hours in 80% alcohol, and then in 95% alcohol for one to two hours. It is preserved in acetate of potassium, 200; glycerine, 400; water, 2,000. After freezing, the eye is cut and placed in glycerine jelly in the usual way.

The great disadvantage of jelly preparations is that subsequent microscopical examination of the specimen, should such be necessary, is difficult, a drawback that can be got over by preservation in some fluid medium instead of in gelatine. Greeff's plan (*see* OPHTHALMOSCOPE, Vol. 1 (1903), p. 219) is the best known. He hardens the eye in 10% formalin, bisects the organ, and fastens the eye to the interior of the oblong glass jar used in the process by means of gelatine. When the latter is dry, the jar is simply filled with 10% formalin. The fluid preservative has several advantages, as simplicity, rapidity, and economy, over the Priestley Smith method. Edgar S. Thomson immerses the bisected eye for three days in acetate of soda, 3%, chloride of sodium, 5%, and formalin 10 %. It is then placed in alcohol (80% to 95%), and is next soaked for two or three days in acetate of potash, 90, glycerine, 180, water, 300, and is finally mounted in a fresh solution of the last-named formula in a glass jar. Shumway, as a rule, employs the gelatine mount. The gelatine, however, is in stronger concentration (40 grms. to 250 c.c. of water) than is usually advised. The specimens are mounted in cups, and after the surface of the gelatine has set, it is exposed to the fumes of strong formalin, so as to harden the medium to the depth of one-quarter inch.

The remainder of this Report (which will well repay study by those interested in pathology) is devoted to the consideration of the ways of photographing macroscopical eye preparations. A number of admirable photographs, showing hæmorrhagic glaucoma, anterior staphyloma, plastic choroiditis, melanosarcoma, and so forth, illustrate the communication.

(2) Santucci gives the following rules for preparing and keeping the divided eyeball: (1) the globe, as soon as possible after enucleation, should be plunged into 5 % formaline at a temperature of 30° to 35° C., and allowed to remain in the liquid for twelve to twenty-four hours exposed to the sun or to a moderate temperature in the thermostat; (2) after twenty-four hours, the outside of the eyeball is cleansed, and the eyeball placed in a 10 % cold solution of formaline, where it remains for forty-eight hours at the least; the liquid is changed from time to time; (3) after the globe has been cleansed down to the sclerotic, it is carefully washed, smeared with vaseline, and enveloped in gutta-percha tissue. It is then placed in the central part of a convenient receptacle,

provided with a hole, and filled with a freezing mixture of ice and salt, where it remains for not less than two or three hours, in order that it may become thoroughly frozen; (4) the frozen eyeball is taken from the ice and salt, its gutta-percha covering removed, the vaseline cleaned off, and it is divided in any direction desired by means of a very sharp razor. It is usually advisable to make the section through the horizontal meridian of the cornea and the axis of the optic nerve; (5) in order to get rid completely of the vaseline, the two halves of the eyeball are immediately placed in 10 % formaline, where they remain for two or three days. If it is wished to avoid the least displacement of the crystalline lens, every trace of vaseline must be got rid of before section, and immediately after section, the specimen must be placed, once and for all, in Priestley Smith's jar, filled with 10 % formaline at a low temperature; (6) the receptacle should be filled to overflowing with formaline (10 %) and the specimen be placed in the liquid in such a way that its surface looks towards the bottom of the jar. The cover, having in its central aperture a small pipette, is then placed in position. In adjusting the cover, the surplus liquid and any air bubbles rise in the pipette. After withdrawing the latter, it is replaced by a small glass stem, ending in a point, which is so arranged as to keep the specimen in place; (7) the jar having been carefully cleansed, the cover is cemented into place. The specimen, thus prepared, keeps indefinitely, retains its colour and shape, may be used for demonstration and be photographed, and may even be removed from the glass receptacle and be prepared for micrsocopic examination. A. ANTONELLI.

Henderson, E. Erskine.—Two Cases of Pigmentation of the Retina. *Royal London Ophthalmic Hospital Reports,* vol. 15, part 4, October, 1903.

This paper consists of a pathological description of two cases which showed all the signs of retinitis pigmentosa. Both eyes were removed for pain, and both were in a condition of absolute glaucoma. The first patient was a woman, aged 72, and the other a man, aged 21 years. A full and detailed account is given of the appearances of the eye, and the condition of the retina and choroid is minutely described. No definite conclusion as to the cause is drawn, but the views of previous observers are given. The association of glaucoma with retinitis pigmentosa is drawn attention to, and by some it is considered that a similar predisposition to vascular changes may underlie both complaints.

C. D. M.

Schanz, Fritz.—Upon the variability of Gonococci. (Ueber die Variabilität der Gonokokken.) *Deutsche mediz. Woch.* Nr. 10, 1904, and *Woch. f. Therapie u. Hygiene des Auges*, April 7, 1904.

The gonococcus is more variable than has hitherto been generally assumed. Schanz shows that quite a large number of diplococci, which resemble gonococci, and which have been termed "pseudo-gonococci," are to be placed amongst the gonococci. In this respect the organisms of gonorrhœa resemble those of diphtheria. Schanz believes that the variability of gonococci forces one to seek a new explanation with regard to the origin of gonorrhœa. MAX P.

Guth, Ernst.—A case of hyaline degeneration of the conjunctiva. (Ein Fall von hyaliner Entartung der Bindehaut.) *Centralbl. f. prak. Augenheilkunde*, Beilage, 1903.

Of the forty-three cases of hyaline degeneration of the conjunctiva reported by Oettingen, Kubli, and Rumschewitsch, no fewer than thirty-one were met with in Russia, while five came from countries bordering upon Russia, five from Germany, and two from Italy. No single case has yet been reported from Austria, with the exception of the one described in the present communication by Guth. The patient came from a district where the disease was unknown, and he had never suffered from trachoma. The right eye had been affected for about a year, and the disease had followed an accident with lime. Upon examination, there was found to be an advanced condition of hyaline or amyloid disease of the conjunctiva of the right eye, while that of the left eye was affected to a much less extent. The case was treated by partial removal of the diseased membrane, and the patient was lost sight of shortly after the operation. Pieces of tissue were examined microscopically, and found to be in a condition of pure hyaline degeneration. In the examination of such degenerated tissues, Guth attaches importance to the employment of Ramocki's method of staining. The communication is accompanied by an illustration of the clinical appearances presented by the patient. S. S.

Steiner, L.—A case of amyloid degeneration of the Conjunctiva and Tarsus in a Malay. (Ein Fall von amyloider Degeneration der Bindehaut und des Tarsus bei einem Malayen.) *Centralbl. f. prak. Augenh.*, Feb., 1904.

This is a case of great thickening of both upper lids in the course of a severe form of trachoma. There was a trachomatous pannus in both eyes. The corneæ and palpebral conjunctivæ were much scarred and inflamed, as the result of this disease.

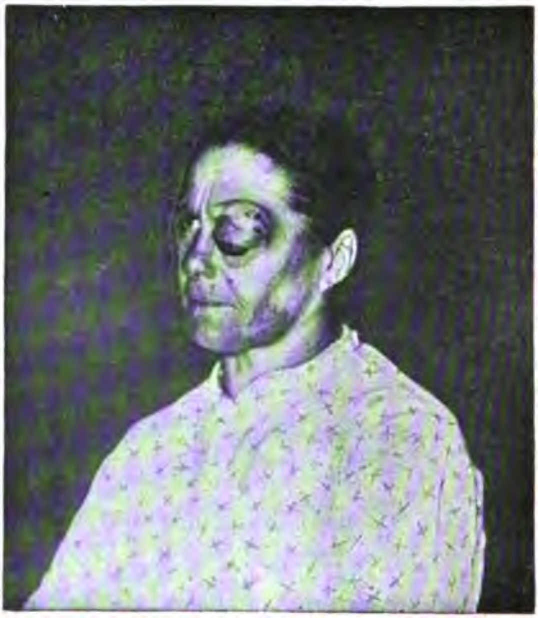
The swellings correspond to the tarsus in size and situation. They are sharply limited above, and are 5 cm. long, 3 cm. wide, and 2 cm. thick. The skin is nowhere adherent. The conjunctivæ, on the other hand, closely adherent. As the patient could not open his eyes, and as the trachoma could not be treated, it was resolved to remove these growths, which was done successfully, and, later, when they came to be examined microscopically, their amyloid nature was discovered. No trace of the essential fibrous tissue of the tarsus could be found, and in many places this degeneration has involved also the conjunctiva. Unfortunately no general examination of the patient was made, so that it is not possible to say whether he was or was not suffering from lardaceous disease. A. LEVY.

II.—DISEASES AND INJURIES OF THE EYE AND ORBIT.

Rollet, Étienne.—Lymphadenoma of the Orbit. (Lymphadénome de l'orbite.) *Rev. générale d'ophtalmologie,* février, 1903.

Rollet describes a rare case, namely, one of lymphadenoma, of three years' duration, in a woman, aged 52 years. A hard, non-pulsatile tumour, the size of a mandarin orange, was situated in the supero-external angle of the left orbit. The eyeball was thrust forwards, downwards, and inwards. The movements of the globe were restricted, particularly in an outward direction. The upper eyelid could not be raised; there was very obvious ptosis. The pupil reacted neither to light nor to accommodation. Iritis was present. The fundus could not be made out, and vision was equal to perception of light only. The general appearances produced by the neoplasm at this stage are shown in the accompanying illustration. No signs of cephalic extension. The patient complained of pain in the left cheekbone and in the neighbourhood of the teeth in the left upper jaw. There was a discharge from the left nasal fossa, but nothing abnormal could be recognised in that cavity. The left maxillary sinus could not be made to glow by trans-illumination. There was marked deafness on the left side. There was a trace of albumen in the urine; but there was no cachexia, and the general state of the patient was good. An examination of the blood was apparently not carried out. Rollet made a provisional diagnosis of sarcoma of the lacrymal gland. The tumour was removed without interfering with the eyeball. It consisted of two parts connected by a fibrous expansion, and was encapsuled. No relapse five months after operation.

Pathological examination by Paviot went to show that the neoplasm was either a lymphadenoma or a lymphosarcoma of the orbit, apparently not connected with the lacrymal gland.



H. DE V.

(1) **Stephenson, Sydney.—On a common appearance of the optic papilla likely to be mistaken for optic papillitis.** *Reports of the Society for the Study of Disease in Children*, Vol. III (1903), p. 342.

(2) **Pick, L.—Pseudo-neuritis of the optic disc. Œdema of the Disc. Optic neuritis. (Pseudoneuritis optica, Œdem der Papilla N. optici. Neuritis optica.)** *Zeitschr. f. Augenheilk.*, Mar., 1904.

(1) Stephenson has a paper, illustrated by two coloured pictures, on the so-called "hypermetropic disc" or "pseudo-neuritis," which he found to be present in 22.80 per cent. of 114 children recently examined with the ophthalmoscope. The following points are given as distinguishing pseudo-neuritis from true papillitis: (1) pseudo-neuritis is a congenital condition, neither advancing or receding; (2) it causes no disturbance of vision, although it is often associated with a degree of congenital amblyopia; (3) the visual field

shows no changes; (4) no actual elevation of the disc can be demonstrated with the ophthalmoscope in pseudo-neuritis; (5) dilatation of the pupil or hæmorrhages or white spots in the neighbouring retina are not seen in pseudo-neuritis. Stephenson rejects the name "hypermetropic disc" for three reasons, as follows: first, because the condition is not more frequent and pronounced in high than in low grades of hypermetropia; secondly, because it undergoes no improvement when the hypermetropia is corrected by glasses; and, thirdly, because it is relatively as common in myopia as in hypermetropia. Stephenson looks upon "pseudo-neuritis" as a congenital non-differentiation of the optic disc; a view supported by the frequent existence of shreds of connective tissue and also by the tortuous state of the retinal vessels.

(2) Pick dwells upon the difficulty which occasionally arises of distinguishing a true optic neuritis from cases where, without any serious pathological change, the appearances closely resemble a true neuritis. He mentions two conditions which are liable to be mistaken for a neuritis: (1) pseudo-neuritis in ametropia, and (2) œdema of the optic disc. The first of these occurs in eyes that suffer from hypermetropia or hypermetropic astigmatism, and may be combined with tortuosity of the veins, the whole making a picture to be differentiated from a true neuritis only with difficulty. The following points are to be borne in mind: the transparency of the tissues, the normal reflex from the vessels, the permanence of the tortuosity and the refraction. Again, this pseudo-neuritis may be combined with a hyperæmia due to some fever, particularly the infectious ones. These are the most difficult cases, but here the vessels do not change, and the picture remains the same, whereas in a true neuritis the ophthalmoscopic picture varies very much in a short space of time. *Œdema of the disc.*—Here the disc is more swollen (1 to 3 D.) than in the other form, but retains its transparency unimpaired, and is accompanied usually by œdema elsewhere in the body. It occurs mainly in the primary and secondary anæmias.

A. LEVY.

Gowring, B. W.—A case of complete Ophthalmoplegia occurring during Whooping-Cough. *British Medical Journal*, December 26, 1903.

During an attack of whooping cough, a lad, aged four years, suddenly developed extreme irritability, unsteadiness of gait, bilateral ptosis, dilated and motionless pupils, and slight divergent strabismus. In ten days the ptosis and strabismus had disappeared, but the eyeballs were slightly protruded "and it became quite evident that the orbital muscles in both eyes were paralysed." The fundi were normal. The child saw fairly well, except in a very bright light. Clinically, diphtheria could be excluded, although no examination was made for the Klebs-Löffler bacillus. Gowring regards the ophthalmoplegia as due to a process akin to that which produces acute anterior poliomyelitis affecting the nuclei of the ocular muscles, probably accompanied by some hæmorrhage due to strain during a fit of coughing.

Nettleship, E.—Observations on Renal Retinitis. *Royal London Ophthalmic Hospital Reports*, vol. 15, part 4, October, 1903.

This paper is the same as the one read at the meeting of the British Medical Association at Swansea in 1903, and has already been abstracted in our columns (*see* OPHTHALMOSCOPE, March, 1904.) C. D. M.

Galezowski.—Sub-retinal cysticercus in the region of the macula. (Cysticerque sous-rétinien de la région de la macula.) *Recueil d'ophtalmologie*, XXV (1903), p. 181.

A man of twenty years complained of a failure of the central sight in one eye. When seen by Galezowski, eighteen months after the beginning of the trouble, V.=1/10, and central scotoma. In the macula of the defective eye was a greyish-white vesicular swelling, as large as the optic papilla, and furnished with four lateral prolongations fixing it to the neighbouring parts. At its upper end lay the neck and head of a cysticercus, which manifested movements whilst under examination. Vitreous opacities made their appearance at a later stage. Galezowski's communication is illustrated by a coloured plate of the fundus. S. S.

Hazewinkel.—Siderosis bulbi. *Ned. Tijdschrift v. Geneeskunde*, 1903, No. 17.

Hazewinkel demonstrated a patient whose eye had been wounded by a piece of iron eleven years ago. Very slowly the eye lost sight, and atrophied without any inflammation, and at the present time showed marked rust-colour of the iris. The case shows that an eye containing iron, even if this is tolerated without the slightest complaint, is infallibly doomed to blindness. G. F. ROCHAT.

Gessner, C.—Upon amaurotic family idiocy. (Zur Kasuistik der familiären amaurotischen Idiotie.) *Münch. mediz. Wochensch.*, No. 7, 1903.

Gessner gives particulars of a case of amaurotic family idiocy which he met with in a Jewish child, fifteen months old. The baby was born healthy, and remained so until the seventh month of life. It then gradually grew weak, and the movements became impaired, until, finally, the patient became completely lethargic. It could neither sit nor stand, nor hold the head straight. Spastic paralysis developed. The sight was lost, and upon ophthalmoscopic examination, this was found to be due to optic atrophy associated with the changes in the yellow spot region of the eye characteristic of this class of case. The child eventually died about a fortnight after sight had been lost. Syphilis, tuberculosis, and nervous trouble could be excluded. Gessner states that instances of amaurotic idiocy have been reported mainly from England and America, and after quoting cases by Tay, Sachs, and Müllberger, gives a general account of the symptoms and pathology of a very interesting and rare disease (For a recent case by Sachs, see OPHTHALMOSCOPE, February, 1904).

III.—THERAPEUTICS, OPERATIONS, INSTRUMENTS, AND APPLIANCES.

Praun, E.—Two atypical operations for Cataracta accreta with good results. (Zwei atypische Operationen der Cataracta accreta mit gutem Erfolge.) *Centralbl. f. prak. Augenheilk.*, November, 1903.

In a couple of cases of cataracta accreta Praun adopted a modification of Wenzel's method of extraction. One patient obtained V.$\frac{6}{10}$ and the other V.$\frac{6}{18}$.

Barraquez.—Grafts of adipose tissue after enucleation of the eye. *Congrès International de Madrid*, 1903.

In order to obtain a mobile stump and to secure other advantages after enucleation, Barraquez has recourse to the implantation of a graft composed of adipose tissue, taken from the buttocks. This plan has the advantage over those already proposed, that the vessels of the fatty mass eventually inosculate with those of the capsule of Tenon. With this intention, before the enucleation, a suture is passed through each rectus muscle, and when the eye has been removed, the superior rectus is united to the inferior, and the external rectus to the internal, and the operation is completed by applying a purse-string suture to close the conjunctival opening, The result of the foregoing operation has been good in sixteen cases and bad in three cases. At the end of a year, the volume of the graft becomes somewhat lessened, sometimes even to one-half, although enough always remains to form an admirable support for an artificial eye. It may be noted, finally, that Barraquez also employs a graft of adipose tissue after performing the operation of exenteration of the orbit. A. Darier.

(1) **Morton, H. Mc I.—The therapeutic value of large doses of the salicylates in Uveitis.** *Ophthalmic Record,* January, 1903.

(2) **Gradle, H.—The value of Salicylate of Sodium in large doses in inflammatory eye diseases.** *Ophthalmic Record,* February, 1903.

(1) In all cases of inflammation of the uveal'tract Morton gives massive doses (30 to 60 grains repeated) of the salicylate of soda upon an empty stomach and dissolved in cold water. He also advocates the frequent use of an effervescent aperient, the hypodermic injection of pilocarpine, a careful diet, and the application of leeches to the temple near the outer canthus.

(2) Gradle praises salicylate of soda in several inflammatory diseases of the eye, such as subconjunctivitis, scleritis, superficial corneal infiltrations, phlyctenular keratitis, nodular sclero-keratitis, diabetic iritis, certain forms of cyclitis, chronic uveitis, and Tenonitis. The remedy must be administered in heroic doses—say, for an adult, 80 to 150 grains a day.

Darier, A.—Subconjunctival injections of tuberculine T. R. in the treatment of interstitial keratitis. *Brit. Med. Journal,* September 26, 1903.

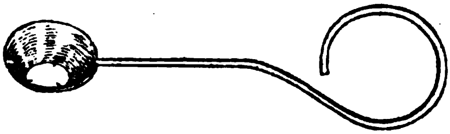
Darier treated with tuberculine T.R. a case of interstitial keratitis, which he believed to be of tuberculous nature.

Snydacker, E. F.—A method for the prevention of Symblepharon after burns of the Conjunctiva. *Archives of Ophthalmology,* January, 1903.

Snydacker treated a severe burn of the conjunctiva (lower part) by sandwiching the lower lid between two shaped leaden plates. Sutures were passed through the lid itself and through perforations in the plates, and their free ends were so adjusted by strips of gauze that the lower lid was kept everted during the cicatrisation of the conjunctiva. The plates were removed at the end of eleven days. The parts healed without the production of symblepharon.

Armaignac, H.—A new proceeding for facilitating the even tattooing of the cornea. (Nouveau procédé pour le tatouage régulier de la Cornée.) *Recueil d'ophtalmologie,* XXV (1903), p. 463.

In order to secure a perfectly circular pupil in tattooing the cornea, Armaignac employs the small instrument depicted in the accompanying sketch. This so-called *guide-aiguille à tatouer* is made in three sizes, having respectively diameters of 4, 5, and 11 mm. It is placed over the cornea, and held in position by the surgeon's left hand, the eyelids having first been separated by a speculum. A drop of Indian ink, sterilised in the autoclave, is placed in the funnel, and the ink is rapidly pricked into the cornea around the aperture of the instrument. In this way a clearly-defined boundary is obtained, and it is then a simple matter to tattoo the enclosed area. The operation is done under cocaine, and if the parts are vascular, Armaignac lays some stress upon the simultaneous employment of adrenaline, 1 : 1,000. The largest instrument—that having a diameter of 11 mm.—is used when it is desired to imitate the iris upon an eye or stump that has become more or less leucomatous. If the stump is markedly shrunken, Armaignac recommends that the pupil and iris should be made smaller than in nature, and that the parts should afterwards be magnified by letting the patient wear a convex lens of 6 D. or 7 D. (see OPHTHALMOSCOPE, April, 1904, p. 150).



S. S.

Valude, E.—The ophthalmic surgery of the frontal sinus. (La chirurgie ophtalmologique du sinus frontal.) *Annales d'oculistique*, T. CXXIX. (1903), p. 337.

To Valude it appears that there is a tendency amongst rhinologists to act too radically when dealing with the frontal sinus, inasmuch as resection of the anterior wall and destruction of the cavity of the sinus now seems to be the favourite proceeding in even simple cases of sinusitis. Valude claims that sinusitis with orbital manifestations is an affection that should be treated by the ophthalmic surgeon. It differs in some important particulars from other forms. Thus, it is seldom accompanied by maxillary sinusitis; it is often encysted; the infection seldom spreads to the cranial cavity; and, finally, it may frequently be cured by simple surgical measures. After describing and criticising the newer surgery of the frontal sinus, Valude points out that Kuhnt's operation, which consists in the total destruction of the cavity of the sinus, may entail diplopia from interference with the pulley of the superior oblique muscle, besides causing great disfigurement. In the operation as modified by Luc, the anterior wall of the sinus is resected, fronto-nasal drainage is secured, and the skin wound is immediately closed. Valude then narrates the details of three cases (two of mucocele and one of true sinusitis), which were cured by merely opening the sinus, evacuating its contents, and curetting its mucous lining. Fronto-nasal drainage, in Valude's opinion, is a thing to be avoided altogether in the treatment of these cases. The radical procedures, as those of Kuhnt-Luc and of Kuhnt, may be kept in reserve for cases which the simpler means have failed to cure. S. S.

Reik, H. O.—Why not employ intra-capsular irrigation in Cataract operations? *Annals of Ophthalmology*, July, 1903.

Reik has employed irrigation, according to McKeown, in twenty cases of cataract extraction with these results (given in his own words): no losses; complete removal of cortex in 18, and some remnants left in 2; but two instances of any marked degree of iritis; good vision in every case; and so far, but two have required operation upon the capsule. Reik concludes an argumentative but temperate article with a recapitulation of McKeown's well-known aphorisms.

Sommer, G.—Upon the technique of iridectomy in Glaucoma. (Zur Technik der Glaukom-Iridektomie.) *Woch f. Therapie u. Hygiene des Auges*, 3 März, 1904.

As the result of an untoward incident (violent relapse on eighth day), Sommer is of opinion that a downward section should be definitely abandoned in cases of iridectomy for glaucoma. MAX P.

(1) **Lindenmeyer.—Eumydrin: a new Mydriatic.** *Berl. klin. Woch.*, November 23rd, 1903.

(2) **Goldberg, Hugo.—Eumydrine.** *Heilkunde*, 1903, Nr. 3.

(1) Lindenmeyer reports on a new mydriatic called eumydrin. It is a white odourless powder, which is readily soluble in water. It is obtained from atropine, and is supposed to be so constituted that while its action on the pupil is not lessened, its poisonous effect on the central nervous system is greatly lessened. It is said to be fifty times less poisonous than atropine. Lindenmeyer has used it in 1, 2, 5, and 10 per cent. solutions, and applied in each case three drops of the solution chosen. One and two per cent. solutions cause dilatation of the pupil after ten to twenty-five minutes, after a further twenty to fifty minutes the dilatation reaches its maximum, and after remaining in this condition for about twelve hours, the pupil slowly returns to its normal size again. A little later than the mydriasis a

paralysis of the muscles of accommodation is noticed. In the majority of cases this becomes complete after the course of from two to three hours. The duration of this paralysis varies very markedly according to the age of the patient and to other factors ; 5 and 10 per cent. solutions produce the dilatation of the pupil after from eight to fifteen minutes. The maximal dilatation is reached after from twenty to thirty minutes, and the size of the pupil becomes again normal after from three to five days in the case of the 5% solution, and after from four to seven days in the case of the 10% solution. The accommodation paralysis is complete in every case with both strengths. In nearly all the cases the paralysis of accommodation cleared up at the same time or before the mydriasis. In no case did he see any toxic symptoms. In normal eyes he found that the weaker solutions took a midway position between 1 per cent. homatropine and atropine, while the stronger solutions were nearly as active as atropine and the paralysis of accommodation did not last so long as with the last-named. He then tested it in pathological cases, and employed the weaker solutions in irritative conditions, such as phlyctenular affections, foreign bodies in the cornea, etc. In this class of case homatropine produces too short a dilatation, while atropine produces an unnecessarily long-continued action. The solutions were highly satisfactory. With the stronger solutions he was able to break down adhesions (synechiæ) in iritis, and when it failed he found that atropine also was incapable of doing better. He found it useful in both acute and chronic iritis cases. He does not think that eumydrin should be used instead of homatropine for dilating the pupil for diagnostic purposes, for he considers the production of a paralysis of accommodation lasting two or three days unjustifiable. In no case did the preparation produce any ill-effects, and the patients only occasionally complained of a slight burning sensation after the drops had been applied.

British Medical Journal, January 16th, 1904.

(2) Goldberg has conducted some experiments with eumydrin, a drug that is closely related to atropine. He found that in solutions of 1 : 100 it was preferable to a solution of atropine 1 : 1,000, in that it produced a prompter and more effective mydriasis than the latter and that its effects disappeared at the end of the second day, while in the case of atropine the effect persisted for several days. As compared with homatropine of the same strength it is preferable, as it produces more complete dilatation and does it more quickly. When used in the diseased eye its effects in this strength seem scarcely less than that of the one per cent. solution of atropine. So

far as the experiments went there was certainly no evidence brought out to show that it increased intra-ocular tension, or, in fact, that it had any injurious effect whatever.

Annals of Ophthalmology, October, 1903.

Bulson, Albert E.—Trichloracetic Acid treatment of Infective Ulcers of the Cornea. *Ophthalmic Record*, February, 1903.

Bulson has treated two cases of hypopyon-keratitis by applying to the infective ulcer a 20% solution of trichloracetic acid. The results were excellent. This experience leads Bulson to believe that the plan is superior to treatment by pure carbolic acid or other caustics, while it is safer than the galvano-cautery, and more efficient than curettage.

Lawson, Arnold.—A case of Acromegaly with Bitemporal Hemiopia, showing the changes that have taken place in the visual fields after four months' treatment with pituitary body tabloids. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

Lawson's patient, a man, aged 30 years, who exhibited all the signs of acromegaly, manifested considerable improvement in sight and in the size of the visual field after four months' administration of pituitary body in large doses. The left eye showed more improvement than its fellow (For a similar case by S. Snell, *see* OPHTHALMOSCOPE, September, 1903, p. 115).

Sommer, G.—Upon oily collyria. (Ueber Oel-Kollyrien.) *Woch. f. Therapie u. Hygiene des Auges*, April 7, 1904.

A traumatic erosion of the cornea, which was painful and refused to heal under ordinary applications, speedily yielded to a 3 per cent. solution of cocaine in sterilised olive oil. This fact leads Sommer to recommend the more frequent use of oily collyria, which appear to enjoy little favour in Germany.

S. S.

Siklóssy, Julius von. Contributions to the surgery of the eyelids. (Beiträge zur Chirurgie der Lider.) *Klin. Monatsbl. f. Augenheilkunde*, J. XLI. (1903), Bd. I., p. 17.

Siklossy's cases include several instances of restoration of the eyelids by modifications of Richet's, Dieffenbach's, and Fricke's operations. The article is illustrated by six photographs.

MAX P.

(1) **Khadem, El.—Protargol in the treatment of blennorrhœal ophthalmia. (Du protargol dans l'ophtalmie blennorrhagique.)** *Thèse de Lyon*, 1903.

(2) **M'Gillivray, A.—The use of Protargol in ophthalmic practice.** *Lancet*, October 17, 1903, p. 1097; and the *Scottish Medical and Surgical Journal*, November, 1903.

(3) **Greene, Arthur.—Protargol in the treatment of gonorrhœal ophthalmia.** *Medical Press and Circular*, November 11, 1903.

(1) Protargol, or proteinate of silver, was first employed by Neisser in gonorrhœa, and later, in the year 1898, was introduced into eye work by the present reviewer. The remedy is now employed by almost every worker in ophthalmology. Khadem has studied its action for four years, and has contrasted its effects during that time with a like period during which silver nitrate was exclusively employed. The figures (too long to be quoted here) covering these two quaternary periods are very interesting. Khadem's conclusions are as under: (1) Protargol is a medicament easy to manage, less caustic, less painful, and more antiseptic than silver nitrate. It penetrates into the tissues, while the action of silver nitrate remains limited to the surface. (2) Protargol, being free from danger, may be entrusted to inexperienced hands. It may be confided to patients, and on that account should be preferred by country practitioners, accoucheurs, and midwives. (3) Protargol, even when concentrated, is altogether inoffensive. In ophthalmia neonatorum, 50 % solution should be applied from the first, if one wishes to get the best results. (4) In gonorrhœal ophthalmia in adults and in newly-born children protargol gives results better than those obtained with silver nitrate, but it is necessary to use strong enough solutions.

A. DARIER.

(2) McGillivray read a paper on protargol before the Forfarshire Medical Association on October 2, 1903. He considered that protargol was one of the most valuable therapeutic agents at present available in the treatment of certain conjunctival affections. It possessed advantages over silver nitrate, since it was not precipitated by the sodium chloride of the tears, and it did not readily coagulate the albumen of the tissues. A 1% solution dropped freely into the eyes thrice daily in catarrhal conjunctivitis gave better results than any remedy he knew of. In certain forms of epiphora it might be combined with a solution of adrenaline chloride, 1 : 10,000. In purulent conjunctivitis of the newly-born he obtained excellent results by the use of a 10% solution of protargol freely dropped into the eyes after the removal of all discharges by copious flushing with tepid normal saline solution. For the latter purpose he employs a special douche or a teapot.

(3) Greene successfully treated three cases of gonorrhœal ophthalmia with protargol, 6 % to 12 %, applied frequently

to the affected eyes. The nature of the disease was confirmed in each instance by finding the gonococcus. The patients were aged 3, 15, and 35 years respectively, and the disease was limited to a single eye in two of them.

Winselmann.—Upon the action of methylbromate of atropine, Merck. (Ueber die Wirkung des Atropinum methylbromatum, Merck.) *Ophthalm. Klin.*, 1903, 22.

Darier recommended for mydriasis a solution containing ½ % of atropine methylbromate and 1 % of cocaine. He claimed that by employing this mixture one got a considerable dilatation of the pupil with a scarcely perceptible paresis of accommodation. Winselmann now relates a number of new experiments. From these it follows that a ½ % solution of the methylbromate produces a considerable effect upon the ciliary muscle, the duration of which is hardly less than twenty-four hours. The addition of cocaine causes the dilatation to occur somewhat more quickly, but, on the other hand, increases the paresis of accommodation. A ¼ % solution, on the contrary, acts little upon accommodation—at all events, on the manifest part of the latter, while under those circumstances the commencement of the mydriasis is scarcely hastened by the addition of cocaine. The duration of the collective action, however, is not inconsiderably hastened. For actual clinical work Winselmann recommends a ¼ % solution of methylbromate of atropine without cocaine.

Likiernik, M.—The mechanical treatment of trachomatous Conjunctivæ. (Die mechanische Behandlung der trachomatös erkrankten Conjunctiva.) *Centralbl. f. prak. Augenh.*, Feb., 1904.

The author points out the difficulty and untrustworthiness of the prevalent methods of treating trachoma, as applied to trachomatous populations, and advises the mechanical treatment as simple, effective, and having the great advantage of being able to be carried out by the patient himself. His method consists in giving the patient a glass rod, on the end of which is a glass ball, of 8 mm. to 14mm. diameter —something like the bulb of an ordinary thermometer—and with this instrument the patient " irons " out his conjunctival sacs one or more times a day according to the severity of the case, keeping the bulb moist with a 1,2000 solution of oxycyanide of mercury. The author, unfortunately, contracted trachoma himself, and adopted this method of treatment with great benefit, every application being immediately followed by a feeling of ease and comfort, and the stretching and constant cleansing of the conjunctiva rapidly bringing about cure.

A. Levy.

Schulte.—A simple substitute for extirpation of the lacrymal sac. (Einfacher Ersatz für die Exstirpation des Tränensacks.) *Die Ophthalmologische Klinik*, 5 Februar, 1904, and *La Clinique Ophtalmologique*, 10 mars, 1904.

As a substitute for extirpation of the sac, Schulte advocates in suitable cases occlusion of both lacrymal canaliculi. This is simply effected (under cocaine) by dilating the parts with a conical sound and by introducing the galvano-cautery for about 4 mm. into the canaliculus, and allowing the wire to glow for two seconds. S. S.

(1) **Coppez, Henri.—On the Use of Adrenalin in Ocular Therapeutics. (Sur l'emploi de l'Adrenaline en thérapeutic oculaire.)** *La Clinique Ophtalmologique*, 10th January, 1903.

(2) **Yvert, A.—Upon the value of Adrenaline in ophthalmic therapeutics. (De la valeur de l'adrénaline en thérapeutique ophtalmologique.)** *Recueil d'ophtalmologie*, XXV (1903), p. 440.

(3) **MacCallan, A. Ferguson.—Report of five cases of Glaucoma in which Adrenaline caused an increase of tension.** *Trans. Ophthalmological Society*, Vol. XXIII., 1903.

(4) **Zazkin, A. B.—Upon the action of adrenaline hydrochloride in some eye diseases. (Zur Wirkung des Adrenalinum hydrochloricum bei einigen Augenerkrankungen.)** *Woch. f. Therapie u. Hygiene des Auges*, 17 März, 1904.

(1) Coppez, after mentioning the advantages of Takamine's adrenalin (1-1,000 of normal sodium chloride with 5 of chloretone as made by Parke, Davis & Co.) and the crystallized adrenalin (prepared by Clin & Co., of Paris), over the fresh and readily decomposible extract of suprarenal gland, proceeds to discuss its action and therapeutic uses as regards the normal eye, In the normal eye the maximum blanching is obtained in two minutes with a drop of the 1 per 1,000 solution. The effect passes off in from one to two hours, and is not followed by congestion. It has no action on the corneal epithelium, on the pupil, or on the accommodation. After mentioning the effects on muscle fibre of the intravenous injection of adrenalin, Coppez points out that the drug is considered by Reichert to be an antidote to opium. When associated with cocain, adrenalin augments the anæsthesia and anæmia caused by the latter, but lessens the tendency to cocain syncope. According to Taramasco, death always takes place (rabbit) after injection of 2 c.g. of adrenalin and is due to acute pulmonary œdema. The author has, himself, experimented regarding its effect on the fundus oculi after

sub-conjunctival injection. The blanching effect upon the retinal vessels of a hypermetrope and of a patient with choked-disc was decided but partial.

Coppez divides the therapeutic applications into two groups: (1) in which adrenalin is used alone; (2) in which it is associated with other drugs. The latter is the more important. Adrenalin may be used alone for normal eyes which easily become irritable and are given to lacrymation. Associated, it accentuates to the effect of all the alkaloids to which it is added. Cocain anæsthesia is more rapid and profound. The actions of atropine and pilocarpine are strengthened. In inflamed eyes, which resist the action of cocain, atropine, and pilocarpine, adrenalin by its blanching effect assists the action of these by reducing vascularity. It is therefore of much service in iritis and in acute and chronic glaucoma. For example, in iritis:—atropine sulph., 5 centigrammes; cocain hydrochlor, 20 c.g.; adrénalin chlor. (1—1,000), 2 grammes; distilled water, 8 grammes. One drop every three hours. Again, in acute or subacute glaucoma:—Pilocarpine hydrochlor., 10 c.g.; adrenalin chlor. (1—1,000), 5 g.; distilled water, 5 gr. One drop every hour until the paroxysm ceases.

In acute conjunctivitis, in order to obtain the action of cocain the combination of the latter with adrenalin is useful. In lacrymal affections adrenalin and cocain form a useful combination; more particularly in inflammatory stricture. The turgescence is reduced so that treatment by syringing of caustics can be carried out. In operations on the conjunctiva, on the ocular muscles, and in iridectomy adrenalin prevents the annoying bleeding which often occurs. Finally, Coppez has used adrenalin (1 in 5,000 on gauze and covered with gutta-percha tissue) in the treatment of tuberculous and epitheliomatous ulcers of the eyelids, but has not yet had sufficient experience of its value in this respect to express a definite opinion. W. Ernest Thomson.

(2) Yvert, of Dijon, believes that adrenalin greatly adds to the activity of such alkaloids as atropine, cocain, and physostigmine when it is associated with them. This is more particularly the case when the eye is congested, and under these circumstances adrenalin may well replace leeches, which are always more or less distasteful to the patient. A drop of adrenalin applied to the inflamed eye two or three times a day, will, according to Yvert, speedily cure acute catarrhal ophthalmia. The author believes adrenalin to be a specific in rheumatic conjunctivitis, arthritic congestion of the sclera, spring catarrh, scleritis, and episcleritis. In severe iritis Yvert recommends a collyrium containing atropine sulphate, cocaine hydrochloride, and adrenalin hydrochloride.

When posterior synechiæ exist, dionine is to be added to the foregoing formula. In acute glaucoma, when operation cannot be performed, relief may sometimes be obtained from a combination of pilocarpine and adrenalin used often to the eyes; physostigmine may or may not be added. Adrenalin has also an action in some forms of chronic irido-choroiditis, and retinal hæmorrhage and thrombosis (Galezowski). It is said by Yvert to be useful in vitreous hæmorrhages. Adrenalin, combined or not with cocain, may be used as an anæsthetic in cauterising the cornea or in probing the nasal duct. The agent is useful in operations upon the conjunctiva, in iridectomy and in iridotomy, and in squint. Yvert's paper, which occupies sixteen pages of the *Recueil*, concludes with a few remarks upon the diagnostic applications of adrenalin, already insisted upon by Darier in his well-known work upon ocular therapeutics. S. S.

(3) MacCallan gives a detailed account of five cases of acute or sub-acute glaucoma where the local application of adrenalin caused an increase in tension. It is, however, necessary to note that the author has used the drug in many other cases of glaucoma without seeing untoward symptoms set up.

(4) Zazkin has experimented upon 53 cases of eye disease with a 1:1,000 solution of adrenalin chloride, obtained from Parke, Davis & Co., or from Pœhl, of St. Petersburg. He gives the following conclusions:—(1) the therapeutic value of adrenalin is not great in sub-acute and chronic forms of conjunctivitis; (2) it does not increase remarkably the anæsthetic influence of cocaine; and (3) the reduction of hæmorrhage brought about by adrenalin during operations is inconsiderable. S. S.

Smith, Major Henry—Extraction of cataract in the capsule. *Brit. Med. Journal*, September 26, 1903.

Major Henry Smith, as the result of his Indian experience, is an ardent advocate of removal of the lens in its capsule. The appended table gives his results in 1,023 cases operated upon in that way:—

Table of Results of Cases submitted to Extraction in the Capsule at Jallundhar Civil Hospital from January 1st to May 1st, 1903.

Number.	Iritis.	Escape of Vitreous.	Capsule Bursting.	Capsule Left Behind.	First-class Results.	Second-class Results.	Third-class Results.
	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.
1,023	0·19*	6·6	8	4	94·42	0·19	0·39

*Occurred in cases where the capsule was left behind.

Hale, Albert B.—Notes on some of the newer methods and drugs in ocular therapeutics, methylbromide of atropine, dionine, subconjunctival injections, jequiritol. *Ophthalmic Record*, December, 1903.

As a result of his personal experience, Hale has finally and permanently adopted the following substitutes for or supports to older therapeutic resources, namely, methylbromide of atropine, dionine, subconjunctival injections, and jequiritol.

REVIEWS.

Royal London Ophthalmic Hospital Reports. Vol. XV, part IV, October, 1903. Edited by WILLIAM LANG, F.R.C.S.

This number of the Royal London Ophthalmic Hospital Reports contains a number of important and interesting communications by Messrs. Verhoeff, Nettleship, W. T. Lister, W. I. Hancock, E. E. Henderson, J. H. Parsons, and W. Inman. These papers will all be noticed in due course in the columns of the OPHTHALMOSCOPE.

A Manual of Ophthalmic Practice. By CHARLES HIGGENS, F.R.C.S.E. Second Edition, revised and edited by ARTHUR W. ORMOND, F.R.C.S.E. London: H. K. Lewis, 136, Gower Street, W.C. 1903.

The second edition of Higgens' "Manual of Ophthalmic Practice," has recently been published, revised, and edited by Mr. A. W. Ormond. It forms one of "Lewis's Practical Series" in which occur so large a number of useful books though few, if any, attempt to be more than practical books. This one is stated to be "intended for students and general practitioners; it does not pretend to go deeply into the subject." We thus find that its scope is much more suitable for students preparing for examinations than as a text-book of reference for those who make a special study of eye diseases.

It is arranged in the usual text-book style, of which so many are now in existence. It commences with the customary chapter on light and optics and the lenses used in ophthalmic work. Then comes a chapter on the examination of the eye, and a description of the ophthalmoscope and such-like instruments and the various refractive errors of the eye.

Chapter 5 commences with diseases and injuries of the eyeball, and then follows a detailed description of the various diseases that are met with in ophthalmic practice; this occupies about 250 pages. The book is certainly fragmentary and only the most ordinary things are described. Thus, tumours of the iris are dismissed with these few words: "Instances, however, of malignant growths, dermoids and simple cysts, and of the cysticercus have been met with in the iris." Sarcoma of the choroid is not mentioned under the head of diseases of the choroid at all; a short account of it is, however, given in the last chapter on tumours of the eyeball, by no means a satisfactory arrangement. The well-known diagrams from Bryant are again reproduced, in which a surgeon with a markedly hydrocephalic head is represented doing major and minor eye operations. It is to be hoped that this is the last we shall see of this ridiculous-looking diagram, which is thoroughly out of date, and really gives no idea of what it is intended to show. In describing the operation of tattooing the cornea, toothed forceps are recommended for fixing the eyeball, and a bunch of needles for pricking the cornea. It is astonishing that this should be so, for the danger of tattooing the conjunctiva is obvious and it is quite unnecessary to fix the eyeball at all in this operation, if only the fingers are used instead of a speculum. We were also under the impression that the old-fashioned bunch of needles was universally given up in favour of an ordinary discission needle. The index might certainly be improved; and, on the whole, the book is hardly as complete and as trustworthy as some others that are published of about the same size.

Archives of Neurology of the Pathological Laboratory of the London County Asylums.—Tabes in Asylum and Hospital Practice. By F. W. Mott, M.D., F.R.S.

It would not be easy to speak too highly of the admirable work which has been and is being carried out in connection with the London County Asylums by Dr. Mott and by those associated with him. The monograph under notice is an example of that work at its best. It is not merely an enumeration of symptoms and their corresponding morbid substrata. It is a piece of work which shows the wide and comprehensive grasp which its writer has of his subject, and it is even more admirable in its suggestiveness than in its actual contributions to knowledge, although these also are by no means to be despised.

The results arrived at with reference to optic and ocular symptoms are those which chiefly concern us here. The Argyll Robertson pupil was found to exist with almost equal frequency in hospital cases of tabes or asylum cases of tabo-paralysis. We are still without explanation of these cases—few it is true, of what at least we call tabes—in which there are no pupillary symptoms, and no one has yet been able to say that there is a definite clinical type of tabes in which, as a rule, the pupil is unaffected.

As to inequality of pupils, this seems to have been more frequent (65%) in the Asylum cases, as contrasted with 40% in Hospital cases. We should have thought that in hospital cases the pupils are unequal in a much larger proportion than 40%.

Ocular palsies, diplopia, etc., on the other hand, seem to be more frequent in the hospital cases of ordinary tabes than in the asylum cases of tabo-paralysis.

In regard to optic atrophy, neurologists and ophthalmic surgeons are deeply indebted to Dr. Mott for the elucidation of this subject. He was one of the first, if not actually the first, to point out the significance of many cases of obscure optic atrophy. He found several cases of general paralysis in which the mental symptoms necessitating the removal of the sufferers to asylums had supervened several years after the patients had become blind from optic atrophy, and there can be little doubt that most cases of primary optic atrophy are of tabetic or general paralytic origin. It is well, also, that Dr. Mott has pointed out the inaccuracy of Benedikt's so-called "law," *viz.*, that tabetic motor symptoms vanish as soon as optic atrophy appears. There is no doubt that many cases in which optic atrophy is an early sign, remain free for long from ataxy, yet it is not the case that patients already ataxic lose their ataxy if optic atrophy supervenes.

Such are some of the points of ophthalmic interest referred to in this book. It does not lend itself to being summarized, but it is well worth the careful perusal of all to whom a scientific and suggestive study of clinical and pathological material appeals.

JAMES TAYLOR.

Colapinto, G.—The therapeutic indications furnished by the different varieties of Glaucoma. (Sulle varieta di Glaucoma e sulle differenti indicazioni terapeutiche.) Cressati, Edit., Noci, 1902.

Colapinto's monograph is dedicated to Professor De Vincentiis, and inspired by the work of the Naples *clinique* controlled by that authority. It commences with anatomico-pathological considerations, analyses the different clinical forms of the disease in two chapters—the first devoted to primary glaucoma, and the second to secondary glaucoma. For each of these forms the author describes the medical and surgical treatment. The last paragraphs deal with sympathetic glaucoma, reflex glaucoma, and pseudo-glaucoma. An alphabetical bibliography, containing 66 references (1709 to 1902) is appended to the treatise. A. ANTONELLI.

Barreto, Mello.—Trachoma in the State of St. Paul, in the Western regions, or coffee zones, of Brazil. (Le Trachome dans l'etat de St. Paul dans les regions de l'ouest ou zones cafeières au Bresil.) DUPRAT & Co., Rua Direita, S. Paulo, 1903.

According to Dr. Barreto's *brochure*, trachoma has become a veritable scourge amongst the working classes living in the west of Brazil. There is not a single coffee plantation to the west of St. Paul where the "colons" are not affected with the malady. Barreto gives the proportion of those diseased as one in six. The passage of infection is fostered by the heat of the country and the large amount of dust in the air. The author calls for the adoption of measures by the municipality that have been found useful in other countries in stemming the ravages of trachoma—as, for example, compulsory notification, isolation, and so forth.

NOTES AND ECHOES.

The Optician Question. THE following trenchant paragraph is taken from the *Lancet*, of 16th April, 1904 :—

"TESTING THE EYESIGHT OF A NATION."

"The reception given by the *Times* to the circular under the above heading, which was sent by the *Optician and Photographic Trades Review* to the Press generally, has in no small degree fluttered the Volscians of the optical Corioli. The *Times*, in very plain language, condemned the proposed 'diploma' of the Spectacle Makers' Company as a document which would be used to mislead the public and pointed out that the relations between errors of refraction and troubles arising from, or connected with, disease were so intimate that no one not possessing medical knowledge could be trusted to unravel them. It seems, however, to have fallen into the mistake of attributing the invention of the word 'optologist' to the 'Optical Society,' of which the *Review* above quoted is the 'official organ' and which has hastened to disclaim the imputed merit. The poor word, indeed, seems to have no friends. It is said by Mr. Laurance to be of 'Transatlantic origin' and to be 'curious and ungainly' but the fact remains that it has come into regular employment by spectacle-selling quacks. We frequently see an omnibus carrying a large outside notice board covered by the advertisement of a person who describes himself as 'Eye Specialist and Optologist, qualified by examination,' and whose shop has 'Ophthalmic

Institution' in large letters over the door. In the columns of the *Times* the advocates of the new 'diploma' roar like sucking doves and profess that all they require is to be subjected to fresh 'limitations' by the action of the Spectacle Makers' Company. What they really wish is, of course, to be represented to the public as the possessors of knowledge which in reality they do not and cannot possess. Assuming them to be honest men, they are not only ignorant but are in the still more hopeless position of being ignorant of their ignorance. A curious assumption by the Editor of the *Review* in his letter to the *Times* is that 'there are only 400 oculists.' What he means by an 'oculist' or how he arrives at the number is not stated, but he is clearly not aware that the conditions of vision and the nature and treatment of errors of refraction form part of the ordinary medical curriculum and that every candidate for a medical qualification is as much liable to be examined about them as about any other portion of the wide circle of professional knowledge. No medical practitioner under 50 years of age has the slightest excuse for want of acquaintance with either the diseases or the functional derangements of the eye or should be in the least liable to confound one with the other."

* * * *

Annals of Ophthalmology—British Edition.

THE British Edition of the American *Annals of Ophthalmology* for January reached our office on March 21st, 1904. It was thus a day or two late for the fair, a fact that accounts for our somewhat belated notice. So far as we can perceive, the British differs from the native edition only in possessing a mouse-grey cover instead of a green one. The type and setting are good, but the quality of the paper and the printing leave something to be desired. The *Annals* have been encouraged to extend their sphere of operations in this new departure by twelve years of prosperity in the land of their birth. We extend to them a hearty welcome, and trust that their career on this side of the Atlantic will be a phenomenal success. This cordial feeling of congratulation is strengthened and emphasised by the statement made in the preliminary "announcement" to the effect that the excellence of the *Annals* "have only been accomplished by much self-denying work and actual drudgery on the part of the Editorial Staff, all of whom are busy men of note in their respective localities, who give their valuable time and labour without monetary recompense." That is apparently in accordance with the universal rule of experience of special medical journalism. The Editor has the courage of his convictions, for he says, "We have endeavoured to give our readers only the best obtainable material, not only as to the original articles, but particularly as regards our abstracts and reviews, which are, without doubt, the most extensive and numerous of any ophthalmic journal ever published." The amount of valuable material in the *Annals* certainly warrants the Editor in not hiding his light too modestly beneath the proverbial bushel. Salaam.

* * * *

The Aliens Bill, 1904.

THE Aliens Bill is founded, in its medical aspects at any rate, on unimpeachable grounds. To exclude persons suffering from communicable diseases from our country is to enforce a wholesome elementary principle of prevention. Of such sufferers those afflicted with "granular lids" romp in somewhere at the top of the list. Every trachomatous person should be sent back by return steamer—or earlier, if that were possible—to the country whence he came. To inspect the eyes of immigrants would, of course, mean special officers, unless the duty could be entrusted to our port sanitary medical officers of health, whose duties, however, are already multifarious enough in all conscience. Any increased loss, however, entailed by the exclusion of granular lids would be a considerable gain for the community in the long run. Precise figures as to the prevalence of granular lids amongst immigrants have never been obtainable. Clearly it is no good endeavouring to stamp out the disease by enlightened and scientific preventive machinery in the United Kingdom, if fresh centres of infection are to be brought daily into the country without let or hindrance. Dr. Robert Reid Rentoul, one of the most recent writers on the subject, remarks: "If the recommendations of the Royal Commission as to the appointment of Medical Officers to examine all immigrants who declare that they intend to reside in the United Kingdom be adopted, it will be necessary that a full enquiry be made into the whole subject of trachoma." So we think! Aliens Bill or no Aliens Bill, trachoma must and shall be excluded from our shores.

* * * *

Death of Dr. E. Donaldson.

THE hand of death has been busy of late in the ranks of the medical profession. In the first week of April it robbed the OPHTHALMOSCOPE of one of its first subscribers and a constant contributor to its columns in the person of Ebenezer Donaldson. In fact, the April number contained a clinical memorandum from his pen. His death took place at Londonderry at the early age of 49 years. A native of county Cork, he studied at the Dublin School of Medicine, and after a short time at sea and as resident officer in a Dispensary he settled down in Londonderry. Soon afterwards he founded the Londonderry Eye, Ear, and Throat Hospital, of which he was joint surgeon with Dr. Hunter. Upon his general practice he grafted that of ophthalmology, in which branch of medicine he became a distinguished and successful practitioner. He filled many important posts, including a seat for many years on the General Council of the British Medical Association. His life was that of an amiable, energetic, and accomplished man, an ornament to his profession, and a true friend alike to rich and to poor.

* * * *

Oxford Meeting of the British Medical Association. WITH regard to the ear-marking of Keble College for the accommodation of members of the section of ophthalmology at the forthcoming meeting of the British Medical Association at Oxford, several enquiries have reached us as to the approximate cost of living in the College. We are able to state that the inclusive expense of rooms and meals will not exceed six or seven shillings a day. Members are again reminded that no accommodation is provided in the College for ladies.

* * * *

The Jacksonian Prize. THE Jacksonian Prize of the Royal College of Surgeons of England, upon the Pathology and Treatment of Conjunctivitis, has been won by Mr. Stephen Mayou, F.R.C.S. It is to be hoped that the Prize Essay may see the light of publication, and not be buried in the archives of the College.

* * * *

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ORIGINAL COMMUNICATIONS.

THE MIDDLEMORE LECTURE, 1903.

BACTERIAL DISEASES OF THE CONJUNCTIVA.

(CONCLUDED.)

By JAMESON EVANS, M.D., F.R.C.S.,
SURGEON TO THE BIRMINGHAM AND MIDLAND EYE HOSPITAL.

ÆTIOLOGY.— The gonorrheal ophthalmia of adults and by far the greater proportion (65% to 75%) of cases of ophthalmia neonatorum are due to infection of the conjunctiva with the gonococcus. Some of the milder cases of ophthalmia neonatorum are due to Weeks' bacillus, pneumococcus, diplobacillus of Morax, and, possibly, to bacillus coli.

THE GONOCOCCUS is a small micrococcus, generally seen in pairs—diplococci—the opposing surfaces being flattened or concave, and hence called "biscuit-shaped" diplococci. For the most part they are found (in films) within leucocytes, pus, or epithelial cells. In the early stage, when the secretion is glairy rather than purulent, a good few are found free. The organisms are most abundant when the secretion is thickest and most profuse Degenerated cocci are spherical. The gonococcus:

1. Stains with basic aniline dyes (methylene blue and fuchsin).
2. It is decolourised by Gram's method.

It is a difficult organism to grow outside the body. It grows best on :—

1. Blood serum—human or rabbit's.
2. Blood or serum agar.

After 24 to 48 hours' growth at a uniform temperature of 35° to 37°C., young colonies appear as small, semi-transparent discs of irregular contour. They tend to remain separate, and attain their maximum size about the 4th or 5th day. Unless propagated by sub-cultures, the organism dies about the 9th day. Even after 2 or 3 days they begin to degenerate, becoming swollen and staining irregularly, and at the end of 4 or 5 days few normal cocci are visible.

This coccus is innocuous to lower animals and even to apes. Inoculations of the conjunctival sac in the human subject, with a culture or with the discharge from an infected eye, are uniformly followed by the production of the disease after an incubation period of 1 to 3 days. The incubation period is shorter in proportion as the culture or secretion is more virulent. The infective power of the secretion is weakened by dilution with water, and dried secretion loses its activity after 36 hours. Its existence outside the body is practically impossible. It therefore follows that the disease can be transmitted only by direct contagion from discharge on hands, towels, etc.

The gonoccocus penetrates the mucous membrane (conjunctiva) chiefly between the epithelial cells, causing loosening and desquamation of the latter and inflammatory reaction in the tissues below, with great increase of secretion. The organism has been found also in joints and tendon sheaths affected with post-gonorrhœal inflammation.

Treatment :—The prophylaxis of such a dangerous disease as this is of the highest importance, and especially so in cases of ophthalmia neonatorum. The following points should be attended to :—

1. Efforts should be made to cure gonorrhea in the mother before parturition.
2. The vagina should be cleansed with antiseptic solutions directly before and during parturition.
3. As soon as the child is born, before anything else is done, the baby's lids, while still closed, are to be wiped carefully with a clean rag or moistened absorbent wool.
4. Whilst the first bath is being given, the child's face should not be touched by the water used for bathing the body.
5. After the bath, the eyes should again be cleansed with

clean (boiled) water and moistened wool, and then a drop of 2% solution of silver nitrate, or 20%–50% solution of protargol or argyrol, placed in each eye.

6. The surgeon and nurse, and any other person concerned in the management of the mother and child, must take every precaution to prevent the carriage of the infected discharges of the mother to the baby's, their own, or the mother's eyes, by infected hands, water, towels, etc.

7. All soiled dressings should be burned, and infected bedclothes disinfected.

By these means the average number of cases of ophthalmia neonatorum in some lying-in hospitals has been reduced from 10% to 0·1% or 0·2%.

In adults the unaffected eye must be carefully protected from infection. For this purpose it may be covered with a pad of Gamgee tissue, the edges of which are made adherent to the skin by painting with flexile collodion. This method is not so pleasant for the patient as the application of a Buller's shield, which protects the eye without interfering with its use. Buller's shield consists of a watch-glass fitted in a square piece of adhesive plaster, which is carefully applied to the orbital margin and the bridge of the nose. The outer and lower part is better left unattached for ventilating purposes—otherwise the glass becomes steamy—and that along the bridge of the nose, being the place most liable to contamination, may be made additionally secure by an extra strip of plaster or by sealing with collodion. As soon as the plaster gets a little loose and worn, a fresh shield must be applied. All general precautions apply here just as for ophthalmia neonatorum. The curative treatment consists in careful and frequent irrigation of the conjunctival sac with weak antiseptic solutions, *e.g.*,

Perchloride of mercury, 1 : 5,000.
Permanganate of potash, zinc, or calcium, 1 : 5,000, or
Quinine (½%).

Other remedies used for irrigation are :—

Carbolic acid, 1%.
Aqua Chlori
Formalin, 1: 3,000.

In addition to irrigations, the palpebral conjunctiva must be painted daily with one of the silver preparations as described under catarrhal ophthalmia, *e.g.*,—

Nitrate of Silver, 2%.
Protargol or Argyrol, 50%.
or Ichthargan, 3%.

During the early stages much comfort will be derived from iced applications to the lids. The patient himself can manage to apply these tolerably well. A block of ice and a pile of lint pads are placed by the side of the bed. Two pads are placed on the ice, and when cold, one is applied to the eye, and a fresh pad placed on the ice instead of it. When the pad which is on the eye begins to get warm, it is thrown away and replaced by a pad from the ice block. These processes are repeated as long as required, an hour at a time being generally as long as it is good for the eye. If pads are limited. the same ones may be used over and over again if they be dipped in a solution of permanganate of potash, when they are taken off the eyelids and before they are replaced on the ice-block. It is not advisable to employ cold in the case of weakly babies suffering from ophthalmia neonatorum. In the later stages of the disease, when chemosis is very pronounced and the cornea is becoming implicated, hot applications are preferable to cold. Moist heat is conveniently applied by means of our "hot water pads," which consist of several layers of lint covered on one side with green protective. These are steeped in hot water or hot poppy-head lotion, then squeezed till excess of water is pressed out, and placed on the eyelids, care being taken that they are not so hot as to scald the patient. It is well to cover the pad over with a thick wad of cotton wool, which helps to maintain the heat for a prolonged time. When the pad begins to get cool, it must be replaced by another wrung out of the hot lotion, and thus a constant and fairly uniform heat is maintained. As a rule, this should be carried on for an hour or two at a time, and the eye is afterwards covered with a heated dry Gamgee tissue pad. In the intervals between the application of these several remedies it is well to insert some mild, non-irritating ointment between the lids. Iodoform, iodol, protargol, or peroxide of hydrogen (Unna's) ointment may be used for this purpose. The ointment prevents the lids sticking together, and so lessens the accumulation of discharge in the conjunctival sac. When the palpebral conjunctiva is thickened and granular, it also minimises the irritation of the cornea by the roughened conjunctival surface. When swelling of the lids and chemosis of the conjunctiva are very pronounced it may be necessary to cut through the lids at the outer canthus (canthotomy), so as to be able to evert the lids for irrigation and painting of the conjunctiva. When the blood and lymph circulation is very stagnant, relief may be obtained by snipping the chemosed and congested conjunctiva or by the application of two or three leeches to the temple. This naturally applies only to gonorrheal ophthalmia in the adult.

As soon as signs of corneal implication appear, atropine must be added to the remedies used. When a corneal ulcer is established, the treatment with silver must still be vigorously continued. If the ulcer is on the point of perforation, the process may be forestalled by a linear section of its base with Graefe's knife. Other complications, such as abscess of lid or lymphatic glands, joint, urethral, or orchitic trouble, must be dealt with *secundum artem*. The patient must be kept in bed until all acute symptoms have subsided. The general health is always somewhat low, and it is well to give tonics such as quinine, iron, strychnine, and, if the circulation is feeble, digitalis and stimulants. Constipation is liable to be troublesome and must be combated. When pain is severe, or the patient sleepless, sedatives and narcotics must be administered. Morphia or opium is most suitable for this purpose.

When the acute symptoms have subsided, vigorous treatment, such as painting the lids with silver solutions, must be replaced by milder measures, similar to those used in catarrhal cases.

MEMBRANOUS CONJUNCTIVITIS.—Under this heading are included two forms of conjunctivitis which have many points in common, but which vary so much in malignancy that they must be described separately. They are :—

1. Croupous Conjunctivitis.
2. Diphtheritic Conjunctivitis

CROUPOUS CONJUNCTIVITIS or Pseudo-membranous Conjunctivitis.—This disease generally occurs in early life, between the ages of 6 months and 7 years. It is often associated with "scrofula" or eczema and sometimes with croupous inflammation of some part of the respiratory tract, generally the nose.

The disease begins as an ordinary acute catarrhal conjunctivitis with stringy, mucopurulent discharge. In the course of a few days, however, the lids become swollen and red, although remaining pliant and painless to the touch. The palpebral conjunctiva is now seen to be covered with a transparent film which does not invade the bulbar conjunctiva, and is easily removed, showing a granular and slightly bleeding surface underneath. The membrane is quickly reproduced after removal. As a rule, the cornea escapes, but in a severe form, occurring after measles, scarlet fever, or influenza, it may be destroyed. The disease lasts two or three weeks, but may relapse and thus be much prolonged. The disease is clinically distinguishable from diphtheritic conjunctivitis by (*a*) the absence of any serious disturbance of general health; (*b*) the absence of brawny hardness of the lids ; (*c*) the superficial character of the membrane; (*d*) the absence of glandular enlargement; (*e*) the absence of cicatricial after-effects in the conjunctiva and lids; and (*f*) the want of virulence of the Klebs-Loeffler bacillus when present. Many observers, particularly Nettleship and Stephenson, insist that croupous conjunctivitis is simply a mild form of diphtheria. But it seems pretty well proved that it can be caused by other organisms, *e.g.*, Koch-Weeks' bacillus, pneumococcus, and, especially, the streptococcus. In the great majority of cases, however, the Klebs-Loeffler bacillus is the ætiological factor.

DIPHTHERITIC CONJUNCTIVITIS.—This disease is fortunately very rare in this neighbourhood. During the last ten years only two cases have been under treatment at this Hospital, according to our *Reports*, but probably several are included under the heading "membranous conjunctivitis," of which there were 43 cases. It is a much more serious complaint than the preceding. There is severe pain, lacrymation, and photophobia. The lids are swollen, and characteristically hard, like a board, painful to touch, and difficult to evert. The conjunctival discharge is at first serous, but soon becomes purulent and sanguineous, containing threads of necrosed tissue. The palpebral conjunctiva is covered by a membrane, which is greyish or yellowish in appearance, and is removed with difficulty. The subjacent tissue is then found to be pale and infiltrated. and when cut into, appears anæmic and waxy. The bulbar conjunctiva and cornea are often involved by the membranous formation. The cornea often becomes partly or wholly necrosed in a day or two. The general health is much disturbed; there is feverishness, restlessness; almost invariably there is enlargement of the preauricular and submental glands, and albumen in the urine. The disease is only very occasionally associated with diphtheria of the nose or fauces.

ÆTIOLOGY.—Apart from an occasional case due to the organisms of catarrhal ophthalmia or the streptococcus, membranous ophthalmia is caused by the Klebs-Loeffler bacillus.

Morphologically, this organism is seen to consist of a slender rod, straight or slightly curved, and of very irregular size and contour. Generally it measures about 3-5μ. by 0.5 to 1μ. It is often clubbed at one or both ends, and, when stained, shows polychromatic granules. The following stains are suitable for bringing out the peculiarities of this bacillus:—

1. Methylene or thionin blue.
2. Gram's stain gives a positive result.
3. Neisser's stain is said by some to be pathognomonic of the Loeffler bacillus.

Neisser's Stain: two solutions are required to carry out this staining process:—(*a*) An acid alcoholic solution of methylene blue; (*b*) Watery solution of Bismarck brown (vesuvine).

Films are stained in (*a*) for 1 to 3 seconds or a little longer, washed in water, stained for three to five seconds in (*b*), dried, and mounted. The protoplasm of the diphtheria bacillus is stained a faint brown, the granules a deep blue colour.

In the opinion of many observers, the Loeffler bacillus can be distinguished from the several pseudodiphtheria bacilli only by the effect of cultures injected into guinea pigs.

It can be conveniently cultivated on :—

1. Agar.
2. Blood serum.
3. Blood agar.

After twenty-four hours' growth, small, raised, circular discs of opaque whitish colour, with centres somewhat thicker and darkish grey, appear on the surface of the agar slope. It does not liquefy gelatine; grown in glucose bouillon or on litmus agar it produces an acid reaction during the first two or three days, an important point of distinction between the diphtheria and the xerosis bacillus.

The following are the main points of difference between xerosis bacillus and diphtheria bacillus :—

1. On serum the colonies of xerosis bacillus are only visible after 38–48 hours at 37°C. Those of the diphtheria bacillus are visible after 18–24 hours.
2. Cultures of xerosis bacillus 15 to 20 generations old show the bacilli to be shorter and more curved and not segmented or clubbed like the diphtheria bacillus.
3. In neutral bouillon or milk, xerosis bacillus never gives rise to acid reaction. Klebs-Löeffler bacillus always does so.
4. Grown on potato, the xerosis bacillus degenerates and dies, whilst the diphtheria bacillus flourishes better than on any other medium.
5. In 10% gelatine, colonies of xerosis bacillus are not visible under 48 hours. Colonies of diphtheria bacillus are recognisable in 12–24 hours.
6. Injected into guinea pigs, xerosis bacillus gives a negative and diphtheria a positive result.

The local application of cultures of the Loeffler bacillus to the healthy mucous membrane gives a negative result; but if the membrane be previously injured, a false membrane is formed. It is probable that the toxins formed by the bacilli are responsible for the effects on the general health, whilst the organisms themselves give rise to the local formation of false membrane. Although this organism does not form spores, it has, in the dry state and in the dark, a great power of resistance to physical agencies. It has been found on the toys of affected children six months after the illness. In a moist condition and in the sun the organism has a low resistance. Cultures lose their virulence when grown at 39.5° on glycerine-agar, but their virulence can be restored (if not reduced *very* low) by the addition of streptococci. Heating to 58°C., exposure to light and air, and the addition of organic acids, *e.g.*, tartaric, reduce the toxicity of the toxin. Alkalies restore its toxicity.

TREATMENT.—In the treatment of cases of membranous conjunctivitis, we should be largely guided by the results of bacteriological examination.

Cases caused by the Weeks' bacillus or the pneumococcus should be dealt with much in the same way as ordinary acute catarrhal ophthalmia. One precaution is necessary, *viz.*, to avoid the use of silver salts, and silver nitrate in particular, if the membrane is very thick, and the discharge serous rather than purulent. In the more advanced and purulent stage silver can be used as directed under catarrhal conjunctivitis. Cases due to streptococcus appear to be peculiarly dangerous to the cornea, and theoretically they should be just the cases to do well under injections of antistreptococcus serum.

Cases in which the Loeffler bacillus is seen to be the cause should be given diphtheria antitoxin in doses of 1,000 to 4,000 units. Local and general remedies should be used in all cases.

The conjunctival sac must be kept as clean and as aseptic as possible. For this purpose the conjunctiva should be painted with 15% permanganate of potash, or 2% silver nitrate, and a lotion of quinine (2 grs. to 1 oz.) with or without hydrarg. perchlorid. (1 : 4,000) should be used. Or the following :—

Corrosive sublimat., 1 pt.
Tartaric acid, 10 pts.
Distilled water, 2,000 pts.

This lotion is calculated to destroy the organism and to counteract the effect of the toxin. Salicylic acid, carbolic acid in glycerine, and lemon juice may be used for similar purposes. It is well to smear the edges of the lids with some mild ointment. Weak citric acid ointment has been recommended as efficacious. Hot pads may be used to ease pain, etc. The sound eye must be protected by means of a Buller's shield, or by a pad covered with Unna's ointment. The general health must be attended to, and the patient isolated, as in faucial diphtheria.

TUBERCULOUS CONJUNCTIVITIS.—This is a very rare disease, although it is highly probable that many cases of tubercle of the conjunctiva pass unrecognised, being mistaken for trachoma and similar conjunctival disorders. Eyre estimates its frequency as 1 : 2,700. In our Hospital *Reports* I found three cases in ten years, which is something like 1 : 45,600.

Tuberculous conjunctivitis generally attacks the palpebral conjunctiva, although in its later stages the bulbar conjunctiva and even the cornea are involved, the latter resulting in a pannus.

The disease may appear as :—1. Miliary discrete or confluent ulcers with yellowish caseating base and overhanging edges. 2. Diffuse nodules in the subconjunctival tissue. These may go on to the formation of 3. Florid hypertrophied and rounded flattened outgrowths of granulation tissue, which later may develop into jelly-like or fibrous pedunculated growths. Tuberculous conjunctivitis gives rise to little or no pain. There is always some mucopurulent discharge from the conjunctiva, some drooping and diminished mobility of the lid, and the preauricular lymphatic gland is generally enlarged. The disease attacks young subjects and, as a rule, is confined to one eye. It may be the primary lesion and give rise to tuberculous disease of nose, lung, etc., or it may be secondary to tuberculous disease of lung, nose, eyelids, etc. It is liable to be mistaken for trachoma, which, however, is generally bilateral, and more often associated with corneal lesions.

ÆTIOLOGY.—The disease is caused by the Tubercle bacillus.—Microscopically the tubercle bacilli are minute rods, measuring 2.5 to 3.5μ. long and 0.3μ in thickness. The length, however, is apt to vary very considerably. They are straight or slightly curved. They are generally uniform in thickness and staining qualities. Occasionally some thickening of the ends and irregular staining are seen. In old cultures some degenerated bacilli appear in the forms of long filaments, and others with clubbed extremities and irregular beading. The tubercle bacillus takes up ordinary stains with difficulty. The best stains to use are powerful ones, *e.g.*, fuchsin or gentian violet with carbolic acid or aniline oil water. These solutions have to be applied for a long time before the organism will take up the stain. Perhaps the best method of staining is 1. The Ziehl-Neelsen method. Once stained the bacilli are decolourised with difficulty by such agents as sulphuric or nitric acid (20% solution). Bacilli having these characteristics are known as "acid fast." Tubercle bacillus also stains by :—2. Gram's method, although not so well as with carbol fuchsin.

This organism can be cultivated on :—1. Blood Serum. 2. Glycerine Agar. 3. Vegetables, *e.g.*, potato, especially if glycerine be added. No growth takes place on ordinary agar or on gelatine. On serum, minute, dull-white, slightly raised colonies appear, about the 10th to 14th day (cf. small dry scales). In subcultures the growth is more luxuriant, and may form a wrinkled film of whitish colour.

It is generally supposed that the tubercle bacillus can gain entrance into the subconjunctival tissue only through a small wound, *e.g.*, the abrasion caused by a foreign body. It is often difficult to explain how the bacillus gains access to the eye. General infection through the blood is no doubt possible, but it is not a frequent occurrence by any means. In most cases infection comes from the nasal passages. It is therefore important to examine the nasal fossæ in cases of tuberculous conjunctivitis.

The tubercle bacillus can generally be demonstrated in scrapings from the ulcerative form, but in the granulomatous and fibromatous (polypoidal) forms it is rather the exception than the rule to detect the organism in sections of the tissue. In such cases experimental inoculation of portions of the diseased tissue into the anterior chamber of a rabbit's eye or the subcutaneous tissue of a guinea pig will rarely fail to give a positive result.

Treatment.—Scraping the ulcer with a small Volkmann's spoon and dusting in iodoform powder daily has yielded excellent results. Cauterisation of the base after scraping may give additional security. The glandular enlargement, as a rule, requires no local treatment. Should the glands tend to break down, it is well to excise them. Constitutional remedies should be given, as in tuberculous lesions elsewhere.

UNUSUAL CONDITIONS OF THE IRIS AND RETINA IN TWO SISTERS.

By

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1. Helen M., *æt.* 17 years, a healthy-looking girl of good physique; physiognomy suggestive in a general way of inherited syphilis, but possessing no single characteristic feature; teeth normal; complains of near-sightedness. The peculiar appearance of her eyes has been noticed from birth, and has undergone no change since.

Family History. Father a hunchback, living. His family much troubled with nasal catarrh. Mother living, apparently quite healthy. No other evidence of tuberculosis or syphilis could be elicited.

Previous History. Measles, two attacks at about eight years of age. Chicken-pox at about two years, and whooping cough at three years.

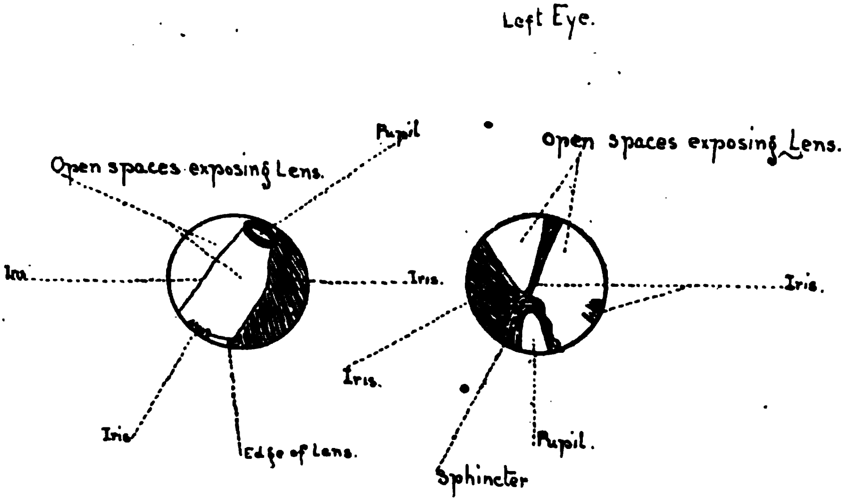
R.V. with $\frac{-15.0 \text{ Sph.}}{-1.5 \text{ Cyl.}}$ 25° = $\frac{6}{12}$

L.V. with $\frac{-14.0 \text{ Sph.}}{-0.5 \text{ Cyl.}}$ 105° = $\frac{6}{12}$

Exotropia 20°. Right Hypertropia 21°.

Examination by inspection and lateral illumination revealed the remarkable conditions shown in the pen-and-ink sketch.

Right Eye.—Almost complete destruction of the iris from its ciliary attachment up to the outer margin of the sphincter pupillæ, which appears to remain intact in this eye, with the exception of the inner portion of the iris and one narrow strand of tissue running from the outer margin of the sphincter to the lower-outer angle of the anterior chamber. The pupil itself is displaced upwards and slightly inwards to a point just within the margin of the cornea, where the true nature of it is less obvious and less easily recognised than would appear from the drawing. Reaction to light is easily observed and scopolamine produces an enlargement which consists mainly of an elongation of the long axis of the oval, *i.e.*, ***the pupil is enlarged in the only direction in which the radiating fibres of the iris remain to act upon it.*** At the lower part of the anterior chamber the margin of the crystalline lens can be easily seen.



Left Eye.—Here the destruction involves the sphincter pupillæ as well as the radiating portion of the iris. The lower part of the sphincter is apparently gone, the limbs being attached to the cornea, or sclero-corneal junction, at the lowest point of the anterior chamber, if such can be said to exist. The destructive process has also eaten into the outer fibres of the sphincter, as evidenced by its uneven and notched condition. Action of pupil to light easily observed.

The ophthalmoscope shows no pathological changes in the fundus; the absence of anything suggestive of inherited syphilis being especially noted. The choroidal pigmentation is somewhat uneven, but there are no patches of atrophy. The corneæ presents no signs of past keratitis.

Pathology.—The apparently perfect development of the sphincter pupillæ in the right eye is sufficient to exclude the possibility of the condition being due to any defect of development, and it cannot be doubted that the same process has occurred in both eyes, causing more extensive damage in the left than in the right. To account for the condition, there remain the supposition of destructive inflammation—tuberculous or syphilitic—or of some neoplasm undergoing retrogressive changes during the intrauterine period of life.

What evidence there is—in the father's "Pott's Disease"—makes the tuberculous theory seem the more probable one. Moreover, may not these large areas of iridic loss be analogous to the large, single patches of choroidal atrophy occasionally seen in the macular region of otherwise normal eyes, and by some regarded as the remains of tuberculous lesions?

The literature at my disposal furnishes only one case resembling that now described. On page 146 of Volume VII of the *Transactions of the Ophthalmological Society of the United Kingdom* is the description by Mr. Walter H. Jessop of a somewhat similar, though much less marked, case; the condition was thought to be congenital, and due to intrauterine inflammation.

2.—Jennie M., *æt.* 14 years, sister of Helen M., complains that she cannot see well with the left eye. Can see around, but not at, the spot at which she looks. The defect has been noticed for the past two or three years, headache and blurring having drawn attention to it. There has probably been no change since it was first noticed. Occasional flashes of light. If she looks carefully she sees a second image of what she is looking at above the true image. She has temporal headache on both sides every day. Some photophobia and blurring.

R. Cornea 170° 44.37D 6/6 +0.25D 30°.
80° 45.00D

Scopolamine revealed Hy. 0.50D.

This eye is otherwise normal in all respects.

L. Cornea 20° 44.50D. V. 6/36 excentrically— eye turned out. Central
110° 45.80D scotoma.

Iris and pupil normal.

The ophthalmoscope shows the following conditions:—

Overlapping the outer margin of the optic disc and extending to the macula, there is an oval area—the long axis being horizontal—which is considerably lighter in shade than the surrounding fundus. It obscures completely the outer margin of the disc, and above and below it is soft-edged, shading off rather rapidly into the normal fundus. At the macular margin there is a very decided disturbance and irregular deposit of the choroidal pigment. The retinal vessels, perfectly defined, on the surface of the area are hypermetropic to the amount of four dioptres (4D.); the fundus near by being one dioptre (1D.) hypermetropic. Vessels can be seen within the area which are shown by parallactic movement to be at a deeper level than the surface of the retina. The fundus is elsewhere quite normal. The ophthalmoscopic evidence indicates choroidal atrophy and an elevated ? cystic, or locally detached, condition of the retina. It seems reasonable to assume from the history and appearance that the condition dates from an early, possibly intrauterine, period of life, and that the etiology is identical with that responsible for the condition of the sister's irides.

In each we have a destructive lesion limited to one portion of the uveal tract, for it is reasonable to suppose that in the second case the retinal changes are secondary to those in the choroid.

CLINICAL, PATHOLOGICAL, AND THERAPEUTICAL MEMORANDA.

CONGENITAL DEFECT OF ABDUCTION, WITH SLIGHT RETRACTION OF THE EYEBALL IN ADDUCTION.

By

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In the *Ophthalmic Review* of January, 1903, Mr. J. Jameson Evans described under the above heading two cases which had come under his observation. He also gave a tabulated list of cases previously recorded.

The following is a similar case, which fell under my notice a few months ago.

Emily B, a schoolgirl, aged 10 years, consulted me on account of pain in the eyes, especially the left, on reading. Her mother noticed that when eight months old she squinted at times. At about the age of five years, she was given glasses, which she wore for two years, and then left off. Of late years the squint has not been very noticeable, and this I attribute to the position in which the child has learned to carry her head, *viz.:* turned slightly to the left side, and not to any improvement in the condition.

On questioning her I found that she has occasional momentary diplopia and giddiness. *Right eye*: V. = $\frac{6}{6}$ (under atropine there is 1 D. hypermetropia). Movements normal in range. *Left eye*: V = $\frac{6}{6}$ (under atropine L.V. = $\frac{6}{12}$ c. $\frac{+\cdot 25\ \text{Sph.}}{+1\ \text{cyl. ax. } 120^\circ} = \frac{6}{6}$) In the primary position there is parallelism of the axes. In *abduction*, the eye fails to move beyond the middle line, but there is slight rotation upwards and a slight widening of the palpebral aperture. In *adduction*, the range of movement is more nearly normal, but on looking above the horizontal, movement is restricted and a very marked rotation of the eye occurs, together with slight narrowing of the palpebral aperture. The left eye was cocainized, and it was found impossible to abduct the eye beyond the middle line by traction with forceps. In the chosen position of the head binocular vision is quite perfect both at distance and near, but in any other position of the head the left image is at once suppressed.

Treatment.—Seeing that the child had learned to accommodate herself to the defect, and that the symptoms of which she complained seemed due more to the error of refraction than to the want of mobility of the left eye, no surgical interference was advised, but correcting glasses were given for near work. The case is remarkable in that binocular vision should have been retained, notwithstanding that any position of the head but the chosen one would result in diplopia were not the left image suppressed. In other respects the case agrees in its main details with those reported by Mr. Evans, in which also the left eyes were affected in twenty-one, out of a total of twenty-seven, cases.

CURRENT LITERATURE.

NOTE.—Communications of which the titles only are given either contain nothing new or else do not lend themselves to abstract.

I.—ANATOMY, PHYSIOLOGY, PATHOLOGY, AND BACTERIOLOGY.

Houdart, E.—On choroidal sarcoma. (Du sarcome choroïdien.) *Recueil d'ophtalmologie*, XXV (1903), p. 456.

Houdart removed the eye of a woman, aged 42 years, on account of a choroidal sarcoma, and three weeks later was obliged to exenterate, because of an orbital extension of the tumour. The patient died a few months afterwards from some cause not clearly stated. The interior of the affected eyeball was found to be literally filled by a very vascular melanosarcoma, which had also penetrated the optic nerve. The tumour had doubtless originated from the choroid in the posterior pole of the eye. H. DE V.

Nedden, Zur M.—Conjunctivitis induced by influenza bacilli. (Die Influenzabazillenkonjunktivitis.) *Klin. Monatsbl. f. Augenheilk.*, 1903, Band I, p. 209.

In thirteen cases of conjunctivitis Zur Nedden found the influenza bacillus, nearly always in pure culture. In some cases he found a small number of staphylococci; in three pneumococci; and in one streptococci. The general symptoms were those of acute conjunctivitis, with abundant discharge of a thin fluid or flaky secretion. The conjunctiva bulbi and the cornea were unaffected. In one or two cases the appearance resembled blennorrhœa. An important feature with regard to prognosis was the frequent occurrence of considerable complications in the surrounding organs. Silver nitrate (2%) and mercury cyanide (1 : 1,500) were used with good effect.

Zur Nedden proceeds to a detailed consideration of the characteristics of the influenza bacillus in cultures. He emphasises the fact that they will grow only on media containing hæmoglobin, and energetically contests the opinion of Jundell, who identifies the Koch-Weeks' bacillus with that of influenza. The Koch-Weeks' bacillus, Zur Nedden contends, forms a distinct group of bacteria, which while doubtless related to the influenza group, is by no means identical. The Koch-Weeks' bacillus is very difficult to cultivate, and, indeed, impossible, except in the presence of human serum, ascitic, or hydrocele fluid. In appearance it is a slender, delicate, little bacillus, the influenza bacillus being much shorter and thicker. A special peculiarity which Zur Nedden found valuable in distinguishing influenza bacillus colonies from others, is that they keep their convex shape a long time, whilst similar colonies of other bacteria, not stained by the Gram method (*sic!*) (*e.g.*, pneumococcus) soon lose it. Zur Nedden considers Müller's trachoma bacillus to be an influenza bacillus.

A. BIRCH-HIRSCHFELD.

Ulbrich, Hermann.—A contribution to the oncology of the conjunctiva. (Beiträge zur Onkologie der Bindehaut.) *Die Ophthalmologische Klinik*, 10 April, 1904.

Ulbrich describes examples of the following tumours of the conjunctiva: (1) epithelioma of the caruncle; (2) flat epithelial cancer of the conjunctiva of the upper lid; (3) malignant papilloma of the cul-de-sac; (4) giant-celled sarcoma; and (5) melanotic tumour of the cul-de-sac.

Rochat, G. F.—The Anatomical Changes in Sympathetic Ophthalmia. *Ned. Tijdschrift v. Geneeskunde*, No. 17, 1903.

Rochat gives a histological description of some cases of sympathetic ophthalmia. In one case both eyes could be examined, the second, totally blind, eye, being taken out after many attempts to relieve the patient from the atrocious sufferings it caused him. In all the cases the principal seat of the inflammation was the choroid, a membrane that showed a very striking thickening. Under the microscope, the whole choroid showed an intense infiltration with mononuclear leucocytes, and also many spots consisting of giant-cells surrounded by epithelioid cells with big nuclei, only slightly stained with hæmatoxyline. The whole bore a decided likeness to tuberculosis of the choroid, although completely differing from it in the absence of necrosis or caseation. Bacilli could not be detected by various stains. Cases like these have been described by Manfredi, Krause, Schirmer, Axenfeld, and Brailey, and the same alterations in the second eye were noticed by Schirmer and Blaschek. But they are thought to be rare, and the general opinion seems to be that they have little importance as regards the pathology of sympathetic ophthalmia. However, Rochat seems inclined to look upon these tubercle-like formations as something specific in sympathetic cyclitis. For in all the cases in which they were found the process was still recent, and those cases in which their absence was specially noted were examined in a later stage, in which the original alterations had already passed off, the choroid presenting more or less cicatricial tissue. If many careful microscopical examinations of eyes enucleated for sympathetic cyclitis in the florid stage should show these tubercle-shaped formations with regularity, we should possess something positive to make the anatomical diagnosis from, which up to now is wanting. The author has observed eight cases presenting the described condition in cyclitis of other origin. There are no literary notices of similar formations. As to the nature of the process in question, it should be remarked that tuberculosis, syphilis, or any other of the diseases known to produce tubercle-like nodules, as leprosy, glanders, &c., could be excluded.

G. F. ROCHAT.

Tartuferi, F.—Upon the elastic sustentacular tissue of the Cornea. (Sulla apparecchio elastico di sostegno della cornea.) *Annali di Ottalmologia*, Vol. XXXIII, Fasc. 3-4, p. 331.

Tartuferi demonstrates that in the cornea of man, and of such common mammals as cows, rabbits, pigs, sheep, etc., there exist an innumerable number of elastic fibres both in the central and in the peripheral parts of the membrane. They are composed of perifascicular reticula with lozenge-shaped meshes, forming a continuous system, a very solid reticular elastic framework in the corneal tissue. This framework forms, as it were, a connecting link between the tissue of the cornea and that of the sclera. It is no longer correct to affirm that the development of the connective tissue is arrested in the cornea quite at the beginning of the formative period (Renaut). Lastly, the existence of the elastic framework may explain certain clinical facts, particularly the great resistance offered by the cornea even when the latter is reduced to a very fine layer, and when the intra-ocular pressure is considerably raised for a long period of time.

A. ANTONELLI.

Axenfeld, Th.—Detachment of the choroid: an observation relating to the effect of Glaucoma operation. (Zur operativen Ablösung der Aderhaut, nebst einer Bemerkung zur Wirkung der Glaukomoperationen.) *Klin. Monatsbl. f. Augenheilk.*, 1903, Band I, p. 122.

Axenfeld agrees with Fuchs in believing that detachment of the choroid (occasioned by incisions in the ciliary body in iridectomy) is more frequent than has been supposed. He thinks also that they occur more frequently of late than was formerly the case, on account of the treatment without bandaging after operation for cataract and glaucoma. Under tight bandaging Axenfeld observed the choroidal condition subside without leaving any disturbance. He assumes that the beneficial effect of iridectomy in glaucoma is due, at any rate in part, to the facilitation of filtration through the perichoroidal space by the detachment of the choroid. He thus considers the detachment to be a matter of great importance for the success of the glaucoma operation; and therefore advocates the abolition of the bandage after this operation. In one case he saw the glaucomatous excavation disappear simultaneously with the choroidal detachment, and appear again after the healing of the latter, an additional proof that this excavation is the result of pressure.

A. BIRCH-HIRSCHFELD.

Nedden, Zur.—Upon fungus concretions in the lacrymal canaliculi. (Ueber Pilzkonkremente in den Tränenkanälchen.) *Klin. Monatsbl. f. Augenheilkunde*, J. XLI (1903), II, p. 327.

Zur Nedden describes a case of fungus concretion in a woman, aged 42 years, whose left eye had been troublesome for five months. The puncta were somewhat dilated, and upon pressure over the tear sac, a drop of turbid fluid escaped from them. The conjunctiva in the course of the upper canaliculus was swollen, and showed a slight oval prominence of yellow colour, resembling an infarct or an abscess. A diagnosis of *Pilzkonkrement* was made. The upper canaliculus was slit, and an oval concretion (2 mm. by 1 mm.) removed. A week later three small concretions were extracted from the lower canaliculus. Four days after the second operation, the eye presented a normal appearance. From the concretions, cover-glass preparations, cultures, inoculations, and microscopical specimens were made. The smears showed a maze of longer and shorter segmented threads, partly straight and partly curved, some being clubbed at their extremities. Thicker threads and small aggregated cocci, often arranged in a chain-like way, were also found. The best smear preparations were obtained after staining by Gram's method. In celloidin sections, stained by the Gram-Weigert method, the fork-like division and branching of some of the threads was seen much more plainly. Numerous nutrient media were inoculated from the concretions, first washed in sterile salt solution. The aërobic media remained sterile. In the anaërobic media, on the contrary, there appeared, after some days, small punctate colonies, which, after five days, were rather larger than the head of a pin. In the course of their further development some colonies remained small, while others became as large as the concrements themselves. The best results were obtained from glycerine-peptone-agar. Bouillon, milk, and gelatine yielded no cultures. However, sub-cultures grew without difficulty, even upon the three media just mentioned. It was found that aërobic cultures upon agar and gelatine succeeded in the fifth generation. The resulting colonies, of grey colour, were round, prominent, hemispherical, and firmly adherent to the medium; they had a peculiar, musty odour, such as is present in streptothrix cultures. The morphology of the fungus showed considerable variations according to the medium employed. The subcutaneous and intraperitoneal injection yielded negative results in rabbits and guinea-pigs. Subconjunctival injections, however, in rabbits give rise to local circumscribed abscess, the pus from which included the fungus in large amount and pure culture. The experiment was frequently repeated—always with similar results. The same effect followed the subconjunctival injection of two other strains of streptothrix obtained by Nedden from the Bonn Hygienic Institute.

S. S.

Villard, H.—The histology of Xanthelasma of the Eyelids. (Recherches histologiques sur le Xanthélasma des Paupières.) *Recueil d'ophtalmologie*, XXV (1903), p. 329.

Villard's researches show that the characteristic elements of xanthelasma are special cells, of which single ones lie in the superficial layers of the dermis, while great numbers, aggregated into nodules, lie in the middle and deeper layers of the dermis. The xanthelasma cells have large, deeply-staining nuclei, and their bodies are formed of a cytoplasmic reticulum, the meshes of which include small balls of a clear refractive substance.

H. DE V.

Terson, A.—The nature and treatment of the prelacrymal tumour. (Nature et traitement de la tumeur prélacrymale.) *Archives d'ophtalmologie*, T. XXIII (1903), p. 430.

Terson removed the anterior wall of a so-called "prelacrymal tumour," and submitted the specimen to microscopical examination. The preparations showed in the clearest way that the tumour had been formed at the expense of the wall of the lacrymal sac, since they included all the elements of the latter structure, namely, fibrous and elastic tissue, numerous vessels, and, lastly, stratified cylindrical epithelium. Slight cellular infiltration was also present. The tumour had clearly arisen as an appendix from the lacrymal sac, and had become cut off and encysted, while the lacrymal passages had remained pervious and in good order. With respect to the treatment of the condition, Terson condemns simple incision, and recommends partial removal, followed by *curettage* and cauterisation.

H. DE V.

De Berardinis.—A clinical and anatomical contribution to epithelioma of the limbus and of the bulbar conjunctiva. (Contributo clinico ed anatomico sugli epiteliomi del limbus e congiuntiva bulbare.) *Annali di Ottalmologia*, Vol. XXXII (1903), Fasc. 1, p. 51.

De Berardinis has studied microscopically two cases of epithelioma of the limbus and of the ocular conjunctiva, excised at the beginning, from patients aged respectively nine and twenty-one years. The neoplasm is rare amongst young subjects, and shows no marked malignancy, since cure may be permanent after a radical removal of the growth.

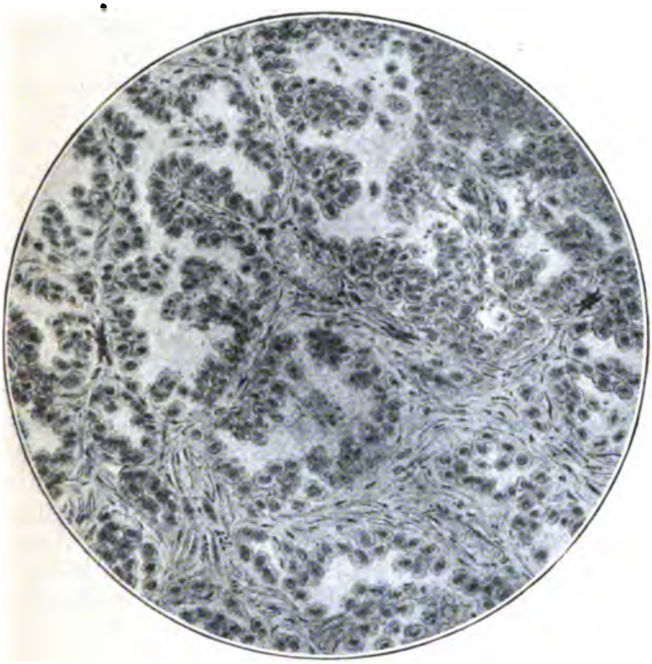
A. ANTONELLI.

Oatman, E. L.—Metastatic Carcinoma of the Choroid, with report of a case and review of the literature. *American Journal of the Medical Sciences, March*, 1903; *and Manhattan Eye and Ear Hospital Reports*, March, 1904.

Oatman reports a case of metastatic carcinoma of the choroid and reviews the literature of the subject. His communication furnishes a valuable and ably-written contribution to the knowledge of a rare condition.

The patient, a Belgian, aged 56 years, became blind in one eye in about six weeks, and some fourteen months later, began to suffer much pain in and around the blind eye. Upon examination, tension was high; there was no perception of light; the pupil was fixed by posterior synechiæ; and a greyish, non-vascular mass was seen to be closely applied to the posterior surface of the lens. The eyeball was removed, but although the operation wound healed kindly, yet the patient's general health failed with alarming rapidity. A week after enucleation, fluid was found in one pleural cavity, and enlargement of the deep clavicular glands on the same side was observed. The patient died about eighteen months after the onset of the eye symptoms and thirty-five days after removal of the eye. A necropsy showed that the primary carcinoma was situated in the liver, and that secondary deposits were present in the supra-renal body, kidneys, spleen, retroperitoneal and bronchial glands, and right bronchus and lung. Furthermore, there were intra-cranial deposits. As regards the enucleated eyeball, upon section, the entire posterior and lateral portion of the globe was lined by a greyish-white, knobby, discoid growth, the centre of which reached a height of three millimètres. From this point it gradually diminished in thickness to its thin-edged periphery, which extended forward to the apex of the ciliary body on the temporal side, and about nine millimètres beyond the optic nerve on the nasal side. The retina was completely detached, except at the ora serrata and optic disc. As may be seen from the appended figure, the growth was a papillary cyst-adenocarcinoma, composed of numerous cystic cavities, with connective tissue walls lined by superimposed layers of large cells of the glandular epithelial type, with abundant cytoplasm, large strongly staining oval nuclei and well-marked nucleoli. While young and closely packed together the cells were somewhat columnar in appearance, but wherever relieved from pressure, they were large and polyhedral in shape, closely resembling those of the liver or kidney. At points in the cystic cavities the epithelium had multiplied and formed branching elevations, into each of which grew a stem of connective tissue. All the cancerous growths present in the case showed the same histological formation wherever they were deposited.

Oatman has found in the literature (which he epitomises) thirty genuine cases of carcinoma of the choroid. The average age of the patients was 44.37 years. Of the primary growths, two-thirds were situated in the breast, and of the remaining ten cases they occurred thrice in the lungs, twice in the liver, once each in stomach and supra-renal body, and twice in unrecorded positions. Females were affected twice as often as males, a fact due to the greater frequency of carcinoma of the breast amongst women. The right eye was involved in twenty instances and the left in nineteen. Both eyes were affected in ten cases. While the deposit of a carcinomatous metastasis in the eye is an extremely rare event, when it occurs in one eye, it is important to note that the other eye is also invaded in one-third of the cases. The deposit always occurs posteriorly near the point where a short ciliary artery enters the globe, and it appears in the corresponding region of the second eye when the latter is attacked. Carcinoma, in typical form, takes the shape of a flat, discoid thickening of the choroid with a central elevation of two or three milli-



Papillary cyst-adenocarcinoma of the choroid. The stroma contains the blood-vessels and scattered pigment cells of the choroid. The large alveolus above is filled with disintegrating remains of tumour elements. × 500. (From an original drawing by the author.)

mètres, gradually sloping away to a thin periphery. A characteristic ophthalmoscopic picture is a "flat oval deposit or tumour on the temporal side of the nerve, involving the macula, with a central elevation of + 3 D., its edges gradually fading off into the surrounding fundus. Its colour is a dirty yellow, with scattered pigment spots." * The time from the first eye symptoms until vision is destroyed varies from two to eight weeks, and averages some five weeks. The rapid loss of sight is due to early and extensive detachment of the retina. Tension is increased in one-third and normal or diminished in two-thirds of the cases. The average duration of life after the initial eye symptoms is six and one-half months. Pre-existing carcinoma will suggest the nature of the eye deposit ; but in seven cases the good health of the patients was the subject of comment. In five, carcinoma was first disclosed by the microscope. Enucleation is not advisable unless the eye is very painful or glaucomatous, since histories appear to indicate that increased activity in the cancerous processes and speedy death may be ascribed to operation. When a metastasis has occurred in one eye, removal of the last-named does not prevent a similar deposit in its fellow.

S. S.

II.—CONGENITAL CONDITIONS.

Blair, Charles, and Potter, Bernard.—Two cases of Aniridia and one of Coloboma of the Iris in the same family. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

Father had coloboma of the iris, slight notching of the lens, and several minor deformities of the eye. One of his daughters showed aniridia and coloboma of the choroid, while one of his sons exhibited aniridia, coloboma of lens, and anterior pyramidal cataract.

Tyrrell, F. A. C.—Congenital Malformation of Lower Eyelids. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

Tyrrell's patient, a lad aged 16 years, presented a slight notch in each lower eyelid, a trifling deficiency at the outer side of the right optic disc, and an imperfect development of the malar prominences.

Percy, Wm. Campbell.—Report of two cases of congenital anomalies of the eyes, illustrating the transmission of such defects from mother to daughter. *Annals of Ophthalmology*, January, 1903.

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* Mitvalski.—*Arch. f. Augenheilk.*, 1889, XXXI, p. 431.

Hawthorne, C. O.—Bilateral coloboma of the iris, choroid, and optic disc. *Reports of the Society for the Study of Disease in Children*, Vol. III (1903), p. 34.

The above defects existed to an equal extent in the two eyes of a girl of 13 years. There was also a coloboma of the lower margin of the left lens. With the exception of the eyes, the patient was well-developed, and free from bodily deformity.

Hadano.—The standing away of the outer canthus. (Das Abstehen des ausseren Lidwinkels) *Die Ophthalmologische Klinik*, 5 Februar, 1904.

Hadano describes six cases in children of a tolerably common malformation not hitherto noticed in the text-books, namely, what he calls a standing-away (*Abstehen*) of the outer canthus. This shows itself as a smaller or larger pouch at the canthus, intervening between the latter and the eyeball, allowing the reflection of the conjunctiva from the globe to the lids to become visible. In marked cases more or less disfigurement may result. The condition, however, may be remedied by the operation of tarsorrhaphy. MAX P.

Zia, Hassan Ahmed.—Upon a case of congenital black pigmentation of the Papilla. (Ueber einen Fall von angeborener schwarzer Pigmentierung der Papille.) *Die Ophthalmologische Klinik*, 20 Februar, 1904.

Although in animals, brown, grey, or black pigmentation of the papilla is often observed, yet such a condition in man appears to be rare. Zia has managed to collect seven cases of the kind from literature. He now adds two additional cases. The first was met with in a man, 24 years of age, whose right optic disc showed an oval, greyish-black-colouration, occupying about two-thirds of the surface. In the second case both optic discs were pigmented, and the patient also manifested a rudimentary coloboma of the papillæ. S. S.

Enslin.—The ocular changes in "Towerskull," especially the affection of the optic nerve. (Die Augenveränderungen beim Thurmschädel, besonders die Schnervenerkrankung.). *Graefe's Archiv für Ophthalmologie*, LVIII, i, April 12, 1904.

The term "oxycephaly," which in this country is generally used for the special kind of malformation to which this paper refers, really applies to a different, though closely related, condition. "Towerskull" arises through precocious ossification of the coronary suture, and is characterised by excessive development of height, as measured by the perpendicular distance of the upper border of the auditory meatus from the nearest point of the vertex, while the summit of the calvaria lies nearer the middle than usual; still this excessive development of the vertical diameter affects all vertical planes fairly uniformly and is therefore different from Virchow's oxycephaly. In this latter deformity the whole surplus of vertical growth affects the region of the bregma only; it is probable that abnormal ossification of the frontal suture plays a part therein, as well as partial obliteration of the coronary suture.

In genuine "Towerskull" the compensatory development of the vertical diameter does not suffice to make good for the loss due to premature ossification of the coronary suture, and so we find a very striking bulging of the temporal and zygomatic regions, producing the effect of extreme broadening of the face. We also see that the large wings of the sphenoid are twisted out of position, forming the posterior instead of the lateral wall of the orbit; they are almost frontal in position and the orbit is very shallow in consequence, producing marked exophthalmos. It is also possible that osseous changes around the optic foramen may account for the papillitis so frequently seen. It is true that anatomical inspection of macerated skulls fails to reveal any marked stenosis of the optic foramen, but in all three *post mortems* ever made, where papillitis was present in "Towerskull" (Michel, Ponfick, and Manz), constriction of the optic nerve in the canal was found. Enslin cannot agree with Hirschberg, who thinks the papillitis due to the spreading of pachymeningitis, and it is certainly strange that no symptoms whatever of this affection should ever be displayed; on the contrary, the children are, with exception of the optic trouble, of bright intelligence, perfect health, and normal longevity.

"Towerskull" leads in a certain number of cases only to optic complications, and even the highest degrees are compatible with perfect function of the optic apparatus. The usual form of affection of the optic nerve is papillitis, but a few cases develop grey atrophy. It is rare to see the inflammatory stage, owing to the fact that the vision being then fairly normal, patients are not induced to seek medical advice. The fields are concentrically contracted. There is rarely or never any complication as regards other cranial nerves, and the intelligence, as already mentioned, is normal. This is essentially different from microphthalmos, in which no compensatory growth of the skull takes place and in which diminution or extinction of visual power is often due to insufficient development of the occiput and of the visual centres.

R. GRUBER.

III.—DISEASES AND INJURIES OF THE EYE AND ORBIT.

Lister, W. T., and Hancock, W. Ilbert.—Epithelial Plaques of the Conjunctiva. *Royal London Ophthalmic Hospital Reports*, vol. 15, part 4, October, 1903.

The authors describe four cases of this rare and little understood condition. The first was in a man, aged 24 years, who had an elongated oval growth in the bulbar conjunctiva, measuring 6mm. by 2mm., and situated close above the cornea. It was raised about ½mm., and was freely movable. Flakes at times became detached, and these caused considerable irritation and acted as so many foreign bodies. The lids were normal. The growth was removed, along with some of the normal conjunctiva. Case 2 was in a girl, aged 15 years,who had had the growth present for about 3 months. It was nearly circular, about 2mm. in diameter, and situated near the limbus. It was ½mm. thick, and was freely movable. It was removed, but recurred a year later and was again removed. On examination each growth was found to consist of a greatly thickened epithelial layer, which at the margin passed into normal conjunctiva. The epithelium was transitional, and the deeper layer was like that of normal conjunctiva. At no part did the epithelium dip down into the connective tissue. In a third case a man, aged 51 years, had been injured with a stone three weeks before. There was a white growth to the inner side of the cornea on the conjunctiva, in appearance similar to those previously described. Its microscopic structure was also similar. Another case is also referred to.

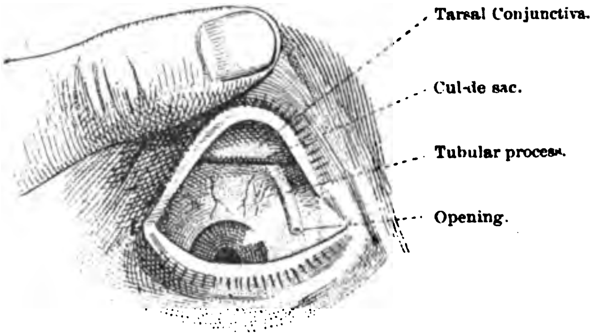
In appearance the so-called epithelial *plaques* somewhat resemble epithelioma, but with these differences: (1) they have no convoluted raised border as epithelioma of the conjunctiva and cornea has, and (2) they are of the dead white colour of sodden epithelium. They seem to correspond most closely with callosities of the skin produced by hyperplasia of the horny layers, and may be either congenital or acquired.

C. D. M.

Ammann, E.—Tubular Episcleritis. (Strangförmige Episkleritis.) *Die Ophthalmologische Klinik*, 5 März, 1904.

Ammann describes a most peculiar kind of episcleritis, associated with the formation of tubular processes in the ocular conjunctiva. The processes varied in size from that of an ordinary steel knitting needle to that of a slender penholder. They ranged in length from 1.5 cm. to 2 cm. The disease was essentially one of relapsing nature, and was associated with considerable irritation and great pain.

The facts of the case (given at length by Ammann) are briefly as follows.—An emotional woman, aged about thirty years, showed in one eye a tough cord, beginning at the level of the pupil, 5 mm. from the edge of the cornea, and extending in a curvilinear way upwards for about 1 cm. above the upper edge of the cornea, almost perpendicularly above the centre of the pupil. It was about as thick as the radial artery. At the lower end, the cord showed a characteristic, crater-like opening, through which a fine probe could be passed right to its upper end. The figure gives an idea of the general appearance. The cord was slit, its lardaceous contents scraped out, and its cavity painted with liquified carbolic acid. Pathological examination of the contents thus removed showed that the latter were of granulomatous nature. A fortnight after the patient was first seen, the other eye developed a painful scleritis; and four days later, a cord-like formation was found on the temporal aspect of the eye, encircling the upper part of the cornea, like an arc. As in the first eye, this cord was treated by slitting, scraping, and cauterisation. It was, however, followed by the appearance of other cords, which were treated in a similar way. The affection relapsed perpetually, now affecting one and now the other eye. There appeared to be a relationship between the onset of the menstrual periods, on the one hand, and exacerbations of the ocular mischief, on the other. In the further course of the case, paresis of two of the external ocular muscles and reduction in the sensibility of the cornea were observed. There was no swelling of the preauricular or neighbouring glands. Tuberculin injections led to no definite reaction, a fact from which Ammann is inclined to exclude tuberculosis as a cause. It is important to note that the patient suffered from a keloid



in the skin of the abdomen and of one thumb, the first following removal of a floating kidney, and the second an accidental wound sustained many years before. Ammann excludes the artificial production of the disease, and syphilis he also places on one side. The ætiology, indeed, of this curious affection remains altogether obscure.

S. S.

Strzeminski.—Two cases of rudimentary ophthalmoscopic stigmata of hereditary syphilis in a brother and a sister. (Deux cas de stigmates ophtalmoscopiques rudimentaires hérédo-syphilitiques chez le frère et la sœur.) *Recueil d'ophtalmologie*, XXV (1903), p. 577.

After reviewing the work of Galezowski, Fournier, Sauvineau, Alfieri, Antonelli, Trantas, and Senn with regard to the rudimentary ophthalmoscopic stigmata of hereditary syphilis, Strzeminski describes two cases of the kind in a brother and a sister. Slight fundus alterations were found in the boy, aged ten years, who presented signs of definite hereditary syphilis, and who, a year later, developed interstitial keratitis. The girl, aged eight years, also showed trivial fundus changes belonging to the group of specific stigmata. Ten months after the first examination, there developed in one eye a typical form of interstitial keratitis. It may be noted that the defects of sight due to the stigmata, according to Strzeminski, yield more or less completely to antisyphilitic treatment.

S. S.

Ayres, S. C.—Polypus of the Lower Canaliculus. *Archives of Ophthalmology*, July, 1903.

Ayres reports one of those uncommon cases where a polypus is found in the canaliculus. The tumour, which had the size of a grape-seed, was attached by a thread-like pedicle, and was discovered after the lower canaliculus had been slit up in the usual way. It had given rise to epiphora, a symptom at once relieved by its removal.

Lindahl.—A case of spontaneous, intracapsular absorption of senile Cataract. (Fall of spontan intrakapsulaer resorption of alderstarr.) *Hygiea*, November, 1903, and *Revue générale d'ophtalmologie*, février, 1904.

Cases of the spontaneous resorption of cataract cannot be very rare, since in 1898 Natanson was able to collect fifty observations. If we describe Lindahl's case fully it is because it is the third in which a microscopical examination has been made. The patient, aged 68 years, had suffered for twenty years from cataract in one eye. Six months later sight began to return, until finally vision with + 9 D. equalled 0.2. The anterior chamber was deep; the iris tremulous: and in the pupil lay a greyish, membranous opacity, in which two small parts were quite clear. The case was obviously one of shrunken cataract, in great part resorbed. Widmark extracted the membrane by means of forceps. After hardening in Muller's fluid, microscopical examination showed that the capsule was intact, and that it contained towards the equatorial part an oval body representing the nucleus. In the pupillary region the two leaves of the capsule were opposed to one another, and contained some Morgagnian fluid, vesicular cells, and *detritus*. In the peripheral portion opposite to the nucleus there were some remains of fibres between which fusiform cells and nuclei were found. The epithelium of the anterior capsule was well conserved in the part corresponding to the nucleus, but was absent from the other parts of the capsule. Lindahl regards this part as a capsular cataract.

H. DOR.

Roux. H. le. — Total and bilateral hysterical amaurosis. (Amaurose hystérique totale et bilatérale.) *Archives d'ophtalmologie*, T. XXIII (1903). p. 801.

An emotional girl, aged 9½ years, became totally blind in the course of five days without obvious cause. When examined by Le Roux, the pupils were dilated, no changes were present in media or fundi, and no tenderness upon pressing upon the eyeballs. Complete loss of the pharyngeal reflex. A week after the visual trouble had commenced, paralysis and hyperæsthesia of the right arm and leg came on. From time to time the child was taken with crying fits. The treatment included potassium bromide and iodide, suggestion, blisters, and purgatives. For three weeks the child remained completely blind, and then sight began to return gradually and became normal in about three months. The hemiplegia, after lasting for three months, passed away, although the affected arm and leg remained somewhat weak.

H. DE V.

Basso, D.—Extraction of an iron fragment from the vitreous ten months after penetration. (Un caso di estrazion di scheggia di ferro del vitreo dieci mesi dopo la sua penetrazione.) *La Clinica Oculistica*, Marzo, 1903.

Basso, of Genova, insists on the absolute necessity of extracting such fragments in all cases, no matter whether the penetration be recent or not. The reasons he brings forward are: first, that the foreign body may change position, even after the lapse of years, causing panophthalmitis or irido-cyclitis; and, secondly, that it may, through oxidation, bring on discolouration of the vitreous and iris (*siderosis*), impairing sight. In the case he reports, Hirschberg's electro-magnet was used, the exact position of the foreign body having been previously ascertained by means of the sideroscope. The case in question presented an interesting symptom, *viz.*, complete dilatation of the pupil, with paralysis of accommodation, dating from the time the accident took place, and disappearing immediately after the extraction of the foreign body. The author, therefore, concludes that this was due to a reflex action, caused by the presence of the iron fragment in the vicinity of the ciliary body.

C. MANCHÉ.

Weill, Georges.—On Heterophthalmos. (Ueber Heterophthalmus.) *Zeitschr. f. Augen.*, Feb., 1904.

The author by this term means those cases where one eye has a light (blue) iris, and the other a dark (brown) iris. He reviews the literature of the subject, and cites several new cases of his own, all of which have been thoroughly examined. He notes the oft-repeated observation that it is almost always the light-coloured eye which is the weaker, and also that these eyes have a definite predisposition to cataract, and seem to stand operative interference badly. The author examined, in all, seven cases, and found in every one of these, on the posterior surface of the cornea those fine pigmented deposits so characteristic of uveitis, and he arrives at the conclusion that (1) the lighter-coloured eye in heterophthalmos is usually, if not always, in a condition of chronic uveitis; and (2) the cataracts which usually, if not always, develop in these eyes are due directly to the uveitis. The explanation Weill offers is that early in fœtal life, before the deposition of the permanent iris pigment is completed, certain circulatory disturbances occur, possibly as the result of hereditary syphilis. These disturbances remain quiescent for many years, and later re-appear in the form of cataract and irido-cyclitis.

A. LEVY.

Silcock, A. Q., and MacCallan, A. Ferguson.—Case of detachment of the Retina. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

The detachment in Silcock and MacCallan's case was found, pathologically, to be due to a spindle-celled melanotic sarcoma of the choroid.

Scheer.—Glaucoma in consequence of an accident. (Glaucom in Folge eines Unfalls.) *Centralbl. f. prak. Augenheilkunde*, Juli, 1903.

A patient (age not stated) had lost one eye from glaucoma. The second eye was seized with the same disease soon after an accident of a comparatively trivial nature.

Lawson, Arnold.—Unusual Retino-Choroidal changes, the result of Hæmorrhage, and due to fibrinous deposits in the deeper layers of the Retina. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

Koun.—Upon Keratomalacia in marasmic infants. (De la kératomalacie chez les enfants athrepsiques.) *Thèse de Bordeaux*, 1903.

Koun reaches the following conclusions with regard to keratomalacia :— (1) Keratomalacia is characterised clinically by a rapid evolution occurring in three phases : infiltration, ulceration, and perforation, and by the absence of reactional phenomena coinciding with a bad general state : (2) it differs from interstitial keratitis, keratitis e lagophthalmo, and neuroparalytic keratitis, affections with which it has sometimes been confounded : (3) it has no bacteriological or pathological characteristics, but marasmus is the etiological factor : (4) keratomalacia, more than any other corneal lesion, is a direct manifestation of bad general nutrition, and that is the reason why it so often entails a fatal result. A. DARIER.

Schalscha.—Upon injury to the Cornea by a strong solution of silver nitrate. (Ueber Anätzung der Hornhaut durch zu starke Höllensteinlösung.) *Woch. f. Ther. u. Hygiene des Auges*, Januar 14, 1904.

Schalscha, thinking he was using a 2 % solution, dropped over the everted eyelids of a baby afflicted with blennorrhœa, a 20 % solution of silver nitrate. The lids, from between which a sanious discharge exuded, became greatly swollen, could not be opened with the fingers, and their cutaneous surface was stained brown. There was marked chemosis. The corneæ looked as if they had been burned with lime. These alarming symptoms, however, passed away in the course of a few days. S. S.

Jocqs.—Forms of Retrobulbar Neuritis. (Névrites rétrobulbaires.) *La Clinique Ophtalmologique*, 25 juin, 1903.

The most important part of Jocqs' paper is an account of a case of retrobulbar neuritis followed by almost complete permanent loss of vision, in which the onset of the scotoma was preceded by temporary paralysis of all the external ocular muscles, and by neuralgia. The exact cause is problematical, but Jocqs emphasises the necessity for a grave prognosis should a central scotoma be preceded by motor ocular paralysis.

W. ERNEST THOMSON.

Desvaux (Angers).—Interstitial keratitis and tuberculosis. (Kératite interstitielle et tuberculose.) *La Clinique Ophtalmologique,* 25 juin, 1903.

Desvaux details a case of interstitial keratitis in support of the present-day view that this eye disease is not always syphilitic. "In this form of interstitial keratitis of tuberculous origin one almost always notices whitish deposits (*depôts*) on the lower part of the cornea, and finds that general treatment with iodides and phosphates and cod liver oil gives excellent results."

W. ERNEST THOMSON.

Coppez and Depage.—A case of orbital actinomycosis. (Un cas d'actinomycose orbitaire.) *Journ. méd. de Bruxelles,* 3 décembre, 1903, and *Rev. gén. d'ophtalmologie,* 31 mars, 1904, p. 137.

Coppez and Depage report the case of a man of 56 years affected with actinomycosis of the orbit. The trouble began in August, 1902, with neuralgic pains in the region of the molar teeth. In October the carious teeth were extracted, and there was swelling of the right cheek. On January 3, 1903, there was an abscess in the temporal fossa, and on incision, foul smelling pus, free from grains, was evacuated. In February, there was another abscess in the temporal fossa followed by exophthalmos. In March, swelling and thickenings of the entire right half of the face, and a fistulous track at the outer canthus allowing a probe to penetrate for four centimètres into the depths of the orbit. March 2nd, the parts were scraped, and actinomyces found. Ten grammes of potassium iodide prescribed. In June the condition remained unchanged. On July 11th, patient seized with violent pains in the head; typhoid aspect; serum reaction positive. Death on August 24th. No autopsy.

Fehr.—Concerning the familial, patchy form of corneal degeneration. (Ueber familiäre, fleckige Hornhaut-Entartung.) *Centralbl. f. prak. Augenheilkunde,* Januar, 1904.*

The characteristics of the cases described by Fehr may be summed up thus.—Three healthy persons in one family, untainted by hereditary disease, became the subjects of an insidious and identical malady of the eyes. The latter consisted in a gradual blurring of the cornea, starting at ten or twelve years, and leading to partial or complete inability to earn a livelihood after lasting from twenty-five to thirty years. Beyond slight irritability and some photophobia, there had never been any visible signs of inflammation. To the naked eye, the cornea had a greyish colour, interspersed with white spots and patches of various shapes. With a powerful lens, the diffuse white thickening was seen to consist of fine dots, through the multiplication of which the variously shaped opacities arose. The densest opacities were situated centrally, while the edge of the cornea was clear or almost so. The opacities, generally speaking, lay in the superficial layers of the cornea. The surface of the cornea was smooth, polished, and even; furthermore, it was sensitive, and its powers of reflection were unimpaired. There was neither vascularisation nor implication of the deeper parts of the eye. Etiology unknown. No treatment crowned with success.

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*A brief abstract of this paper was published in the March number of the OPHTHALMOSCOPE (p. 106). The subject is, however, so important, that it has been deemed advisable to give a longer abstract, accompanied by reproductions of the original illustrations.—EDITOR.

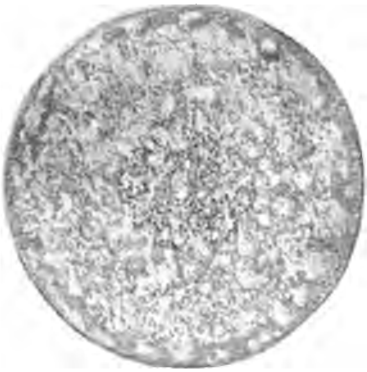

FIG. 1.

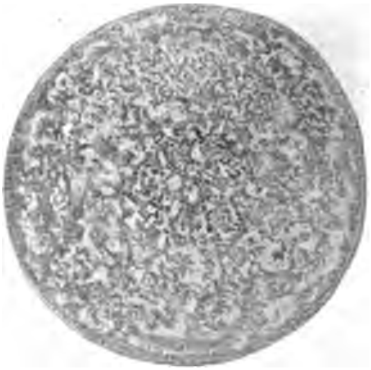

FIG. 2.

The particulars of Fehr's cases were as under: (1) This patient first fell under notice at twenty-three years of age. Her eyes became affected when she was twelve years old, and since that time her sight had got progressively worse. The appearance of both eyes suggested punctate keratitis. Twenty-three years later the patient was seen again. There was some little photophobia and dazzling. Fingers could be distinguished at one and-a-half feet. The condition of the corneæ is shown in figs. 1 and 2. (2) A woman, aged 42 years, sister of the above patient, was first seen at the age of nineteen years, with the history that sight had commenced to fail seven years previously. On the present occasion, with myopia corrected, R.V. was equal to counting fingers at the length of the room, and L.V.=? 5/60; Snellen No. 12 with right, and Snellen No. 5 with left eye. State of cornea shown in fig. 3. (3) Male, now aged 39 years, first examined when aged 24 years. Sight began to fail at ten years of age, and soon afterwards spots were noticed upon his eyes. No visible signs of inflammation. Unable to read for last four years. This case (see fig. 4), stands midway as regards severity between the two cases described above.

Fehr proceeds to quote cases of "striate" and "nodular keratitis," with a view to deciding how nearly they are allied with the cases described in the present communication. As to the first-named, Dimmer found microscopically that the opacities consisted of hyaline and colloid scales, soluble in alcohol, as was also a crystal of triple phosphate embedded therein. Dimmer, accordingly, looks upon striate keratitis as a degenerative process. As to nodular opacities of the cornea, Fuchs considers that men are mostly affected, and that the characteristic features of the disease are: (a) marked roughness of the superficial layers of the cornea; (b) greyish, superficial, prominent spots in the pupillary region of the cornea, and (c) a general mistiness of the cornea, shown by the lens to consist of minute dots. A specimen examined with the microscope showed that Bowman's membrane was absent, and that the epithelium over the nodules was attenuated. Other observers have found hyaline and sodium urate present. Fehr considers that his cases differ

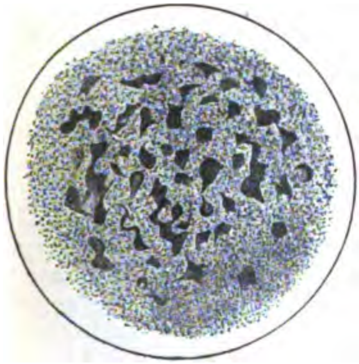

FIG. 3

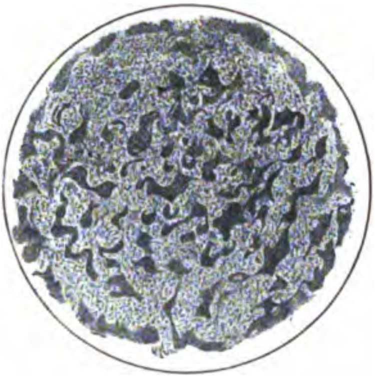

FIG. 4.

from both striate and nodular keratitis, in that the surface of the cornea is smooth, its powers of reflection unimpaired, and its epithelium intact. The shape of the opacities also differs from that of those in striate keratitis. A case described by Koerber (*Zeits. f. Augen.*, 1902, Bd. VIII, S. 340) much resembles those described by Fehr, although Koerber himself classes it as an example of nodular keratitis. Fehr believes that all three types—that is striate, nodular, and his own cases—may be looked upon as varieties of patchy keratitis. His own cases he considers due to degenerative changes, but is unable to assign a cause for them.

ANNIE T. BARNARD.

III.—THERAPEUTICS, OPERATIONS, INSTRUMENTS, AND APPLIANCES.

Bouchard, Charles.—Some new Therapeutic Tendencies; the importance of Local Treatment. (Des Tendances Nouvelles de la Therapeutiques; importance du traitement local.) *La Clinique Ophtalmologique*, 25 janvier, 1903.

This is a general article advocating a greater attention to local therapeutic treatment. The article should be read in its entirety, but the following sentence gives the clue to its general purpose: "I have thought that both in local maladies and in general maladies having local manifestations, if a drug applied systematically has a specific curative action, it ought to be possible to limit the administration of it to the affected tissue; to try the treatment by injecting into the affected part the remedy which proves efficacious when administered systematically." There is practically no special reference in the article to ocular therapeutics. W. ERNEST THOMSON.

Zaskin, A.—Cuprocitrol. *Woch. f. Therapie u. Hygiene des Auges*, 28 Januar, 1904.

Zaskin, who has treated forty-two cases of trachoma with Arlt's cuprocitrol, reports that in 23 (55.7%) there was improvement or complete cure; in 12 (28.5%) no result; while 7 (16.6%) became worse. MAX P.

Koubli.—Communications upon practical ophthalmology. (Kratkia soobschenia is glasnoi praktiki.) *Westnik Ophtalmologii*, January 1, 1903, and *Revue générale d'ophtalmolgie*, février, 1904.

Koubli describes the result of his employment of ichtargan in practical eye work, and finds that the remedy has an action almost identical with that of nitrate of silver. Ichtargan yields good results in cases of chronic conjunctivitis and trachoma.

A. MAKLAKOW.

Ellett, E. C.—A new method of preventing infection from the conjunctiva after operations involving opening the anterior chamber. *Ophthalmic Record*, April, 1903.

A patient affected with cataract suffered from an intractable conjunctival discharge, in cultures from which staphylococci were found. Many remedies were applied in order to check the discharge, but without success. Finally, Ellett removed the cataract from one eye, and covered up the cornea with the ocular conjunctiva, first dissected from the anterior portion of the ball of the eye. The cut edge of the conjunctiva was united by a horizontal row of stitches, so that no obvious gap was left in the line of union. The case did well. The sutures were removed from the conjunctiva on the fourth day, and the entire surface of the cornea was found to be exposed some three days later.

Popolani.—The treatment of soft granulations of conjunctivitis by Hermophenyl. (Traitement des granulations molles de la conjonctivite par l'hermophényl.) *Recueil d'ophtalmologie*, XXV (1903), p. 113, and *La Presse médicale*, 7 février, 1903.

Popolani has employed hermophenyl, *i.e.*, mercurio-sodic-phenol-disulphonate, in the treatment of conjunctivitis accompanied by soft granulations. This organo-metallic salt, which contains 30 % of mercury, occurs as a white, amorphous powder, freely soluble in cold water. The palpebral conjunctiva is first rubbed with wool until it bleeds, and then wool steeped in a 15 % solution of hermophenyl is rubbed over the sanious surface. Popolani has treated in this way 1,500 cases of trachoma, with the result that 703 were cured. The treatment lasted, on the average, twenty days. According to Popolani, hermophenyl is free from irritating qualities, and is, besides, a powerful bactericide.

H. DE V.

EXTIRPATION OF THE LACRYMAL SAC.

(1) **Axenfeld, Th.—The extirpation of the lacrymal sac as a preventive of septic infection in special cases of injuries. (Die Exstirpation des Thränensackes zur Prophylaxe der septischen Infection der Berufsverletzungen des Auges.)** *Klin. Monatsbl. f. Augenheilk.*, 1903, p. 128,

(2) **Knapp, Arnold.—The extirpation of the Lacrymal Sac; its indications and technique**. *Archives of Ophthalmology*, July, 1903.

(1) Axenfeld recommends the removal of the lacrymal sac in stenosis and suppurating dacryo-cystitis not only before operating on the eyeball or in presence of corneal ulcer, but as a precautionary measure when for any reason (*e.g.*, patient living in the country) a thorough and systematic course of mild treatment by syringing and probing is precluded. In view of the bacteriological researches of Plaut and of Zelewski, it must be admitted that the extirpation of the sac very considerably lessens the danger of septic infection of the cornea. The disinclination of many surgeons to resort to this operation Axenfeld ascribes to the difficulties of the methods hitherto employed. He describes a way of performing the operation, which by means of special elevators (*Sperrelevateure*), gives a sufficient opening into the lacrymal sac and makes it possible to control bleeding. An incision in the skin 2.5 cm. long is made, curving from the inner canthus down the nose. The periosteum is separated at the same time. The incision is then drawn apart in four directions by means of a Müller's speculum and an Axenfeld's speculum,* the periosteum levered up as far as the fossa lacrymalis with the elevator and then the nasal and posterior wall of the lacrymal sac laid bare. The "head" is now grasped with the forceps, and the temporal and lower part removed with the scissors, cutting close to the bone. If hæmorrhage occurs, Axenfeld compresses with wads soaked in cocaine on little splints of wood. Finally the naso-lacrymal duct is scraped out with a bent scoop. The operation may be performed without a general anæsthetic, if a quarter of an hour beforehand the sac is filled with a 4% solution of cocain, and a subcutaneous injection given of 2% solution of cocain (or 1% cocain and adrenalin).

Axenfeld has employed this method in 300 cases with the most satisfactory results. I may add that Axenfeld's method has been largely and successfully adopted in the Leipzig University Eye Clinique.

A. BIRCH-HIRSCHFELD.

(2) Arnold Knapp removes the lacrymal sac in the following conditions :—(1) chronic purulent dacryocystitis, rebellious to ordinary treatment ; (2) repeated attacks of acute dacryocystitis with abscess ; (3) whenever the sac is dilated, whether the contents can be expressed or not ; and (4) lacrymal fistula. The operation is done under general or local anæsthesia (ethyl

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*Obtainable at Windler's, of Berlin, Friedrichstrasse, 133.

chloride and Schleich's method). An incision is made just below the internal canthal ligament, passing for 1½ c.m. to 2½ c.m. along the orbital margin. The ligament may or may not be divided. The sac is isolated, and lifted out of the fossa in which it lies, and is separated as low down as possible, and the canal itself is curetted with a small spoon. An inspection of the fossa is made with a view of detecting any complication, such as inflamed periosteum, granulations, or carious bone. The operation is concluded by approximating the edges of the wound with two or three sutures, and by obliterating the cavity by pressure with a pad and bandage. According to Knapp, primary union with obliteration of the cavity can be secured in most instances.

CATARACT.

(1) **Albertotti, G.—Reclination of Cataract. (Considerazioni sopra l'abbassamento della Cataratta.)** *La Clinica Oculistica*, Giugno, 1903.

(2) **Gradenigo, P.—On extraction of cataract in its capsule by the sclerotic after zonulotomy. (De l'extraction de la cataracte dans la capsule par la sclérotique après zonulotomie.)** *Annales d'oculistique*, T. CXXX (1903), p. 25.

(3) **Müller, Leopold.—A method of operation for complicated Cataract and dislocated lenses. (Ein Operationsverfahren für komplizierte Staare und luxierte Linsen.)** *Klin. Monatsbl. f. Augenheilkunde*, J. XLI (1903), Bd. I, p. II.

(4) **Czermak, W.—Subconjunctival extraction with conjunctival flap. (Subkonjunktivale Extraktion mit Bindehauttasche.)** *Klin. Monatsbl. f. Augenheilk.*, 1903, II, p. 497.

(5) **Terson père.—The technique of capsular tearing away in the extraction of Cataract. (Technique de l'arrachement capsulaire dans l'extraction de la Cataracte.)** *Annales d'oculistique*, T. CXXIX (1903), p. 420.

(1) The method of reclination, fully described by Celsus, continued to be exclusively employed up to the middle of the 18th century, when Daviel (following Petit, who in 1708 had opened the cornea to extract an opaque lens which had come forward into the anterior chamber) performed the operation of extraction, a method which became universally adopted, after modification by Graefe. The method of reclination or depression is by many considered irrational and has

consequently been abandoned, but Albertotti, of Modena, refers to works of several eminent authors where this method is described and recommended in exceptional cases. He also adduces the discussion held in the Ophthalmological section of the International Congress of Medicine, Paris, 1900, with reference to the above method. The author condemns the practice of introducing the instrument through the sclerotic, on account of the great dangers connected therewith, and advises the performance of the operation through the cornea, a method which Mackenzie in his *Practical Treatise on the Diseases of the Eye* (1830), does not recommend, owing to the fact that depression and reclination through the cornea had then to be performed with a straight needle, such as Beer's, or a bent one, such as Scarpa's. The author has therefore invented an instrument for the purpose, which consists of a blunt-pointed, ring-shaped hook slightly flattened in the transverse diameter (which measures 5mm. as compared to its longitudinal which measures 6mm.), slightly curved on the plane with a portion of the ring, 2½mm., missing in the vicinity of the stem. The operation may be performed with the patient sitting or lying down, keeping the head rather elevated if the lying posture is used. For performing the operation on the left eye the surgeon uses the right hand, facing the patient and behind him if it is the right eye, unless he happens to be ambidextrous, when the former position can be maintained for operating on either eye. The speculum or preferably Angelucci's method of fixing the eye in cataract operation is employed, *viz.* : fixation in the median line above the cornea, including some of the fibres of the superior rectus tendon in the vertical fold of conjunctiva taken up. Cocaine having been applied, and the pupil previously dilated by means of a mydriatic, the cornea is punctured with an iridectomy knife or the paracentesis needle in the the middle line, about 2mm. above its lower margin, taking care not to introduce the instrument perpendicularly to the surface of the cornea, but parallel to the plane of the iris. Albertotti's instrument is then introduced into the anterior chamber through the wound, by keeping it first with the handle pointing upwards and the convexity of the ring towards the nasal side, gradually lifting the instrument as if trying to hook up the cornea, as much as the curvature of the ring allows. The instrument is then given a semi-circular motion outwards and downwards, at the same time rotating it on its axis in such a way as to make its concavity adapt itself to the anterior convex surface of the lens, when the handle is brought vertically downwards, at the same time pushing the loop of the instrument underneath the iris up to the superior edge of the lens. Two marks on the handle, corresponding to the side of the convexity, show whether the instrument is in the right or wrong position. Having thus placed the hook in position, with its summit corresponding to the suspensory ligament, the fixation forceps is made to pull upwards and forwards, while reclination is being performed by elevating the handle of the instrument, using the wound made in the cornea as the fulcrum for the leverage. The lens is to be kept in its new position for at least ninety seconds, before an attempt is made to withdraw the instrument. This is done by giving the hook exactly the same movements, but in inverse order, as those of introduction, taking care to avoid hooking up the iris in so doing. If the lens reappears in the pupil, it is very easily put back by going through the same process over again. The instruments above described are manufactured by Luigi Cappelli, of Modena.

C. MANCHÉ.

(2) Gradenigo, of Padua, believes that removal of cataract through the sclera is an operation that has been unjustly condemned to oblivion. While not denying the results obtained by the corneal incision, he insists that the latter too often entails such inconveniences as opacity and astigmatism of the cornea, synechiæ, and secondary cataract. The scleral operation, on the other hand, leaves the cornea normal, the pupil transparent, and a linear cicatrix in a position where it is covered by the conjunctiva. The dangers of the operation are no longer to be dreaded as they were before the introduction of anæsthesia and asepsis. Prolapse of the vitreous is not likely to occur in the hands of a skilful surgeon. The lens is delivered by sliding (*glissement*), and without the introduction of any instrument into the vitreous chamber.

H. DE V.

(3) Müller describes a somewhat complicated method of cataract extraction in which sutures are used to close the corneal wound without actually entering the anterior chamber. For details readers are referred to the original communication. The plan according to Müller, may be adopted in (1) dislocation of the lens into the vitreous or anterior chamber ; (2) all cases of cataract where one eye has already been lost from choroidal hæmorrhage ; (3) cases where tension is raised ; and (4) mental or alcoholic cases, severe bronchitis or asthma. The author has performed the operation six times. To the main communication Müller appends an account of a new operation for staphyloma.

MAX P.

(4) Czermak's operation is as follows : 1. A Graefe's knife is introduced close to the limbus from the outside. 2. Before the knife is withdrawn, the anterior capsule of the lens is separated with it. 3. Cut into the conjunctiva bulbi with

straight scissors in a vertical direction. 4. Undermining of the conjunctiva in the lower part. 5. Sub-conjunctival section through the sclerotic in the lower curve of the chamber. 6. Extrusion of the lens with the help of two spatulas, of which the lower one is introduced into the conjunctival sac, whilst the other on the upper edge of the cornea presses the lens backwards and downwards. 7. Removal of remains of the lens. 8. Sewing up of the conjunctiva.

A. BIRCH-HIRSCHFELD.

(5) Terson *père*, of Toulouse, as well known, replaces capsulotomy in cataract extraction by tearing away a piece of the anterior capsule of the crystalline lens. This operation is rendered easier by certain modifications made by him in Wecker's capsular forceps, for details of which the reader is referred to the original article. A small iridectomy may or may not be made. The author insists upon the necessity of examining the anterior capsule before operation by lateral illumination with a dilated pupil in order that any abnormal consistence of the capsule may be recognised. When the capsule is abnormal, the use of the forceps should be preceded by a tiny incision in the lower periphery of the capsule, for the purpose of facilitating its rupture without running any risk of dislocating the lens. The remainder of Terson's communication is taken up with the discussion of the good and bad points of the forceps introduced by Rochon-Duvigneaud for performing cystectomy.

H. DE V.

Fage.—The artificial Maturation of Cataract. (La maturation artificielle de la Cataracte.) *Annales d'oculistique*, T. CXXIX (1903), p. 426.

Fage briefly reviews the methods adopted by different operators for the maturation of cataract, and then describes his own operation as under: the eye is disinfected and the pupil dilated, and a small central opening is made in the anterior capsule of the lens by means of a very narrow cataract knife introduced obliquely near the border of the cornea. The aqueous humour is allowed to escape while withdrawing the instrument, and massage is then practised through the cornea. Fage sometimes uses a paracentesis needle instead of a cataract knife for the purpose of opening the anterior chamber. By adopting these means, senile cataract, on the average, may be brought to maturity in three weeks.

H. DE V.

REVIEWS.

A Treatise on Diseases of the Eye, Nose, Throat, and Ear.—By various authors. Edited by W. CAMPBELL POSEY, M.D., Professor of Ophthalmology in the Philadelphia Polyclinic, and JONATHAN WRIGHT, M.D., Laryngologist to the Brooklyn Eye and Ear Hospital. London: HENRY KIMPTON. 1903.

A book of two volumes entitled "A Treatise on Diseases of the Eye, Nose, Throat, and Ear," by various authors has recently been brought out, and is edited by Dr. W. Campbell Posey, of Philadelphia and Dr. Jonathan Wright, of New York. Volume I. is concerned with the eye only. There are 27 contributors, the greater number being Americans, while some are Canadians and two are English, *viz.*: Mr. Holmes Spicer and Mr. Treacher Collins. The book is illustrated with 650 engravings and 35 plates in colours and monochrome, and it is altogether got up in a most attractive style. The other authors on diseases of the eye consist of these well-known names:—Posey, Suter, Duane, Casey Wood, Reeve, John E. Weeks, Würdemann, Gifford, Ellett, Starr, C. F. Clark, Clarence Veasey, and Edward A. Shumway. With this staff we should expect a high-class book, and in the volume before us we are certainly not disappointed. All the authors are authorities on the subjects on which they write, and from first to last the book is well written and interesting, although, of course, the different styles of the individual authors strike one.

One of the best features of the book are the excellent drawings and illustrations it contains. Plate I. shows the appearance of the eye with different sets of vessels injected. The normal fundus is illustrated in plate 2. A plate from Motais shows beautifully the arrangements of the capsule of Tenon and of the attachment of the muscles to the eye-ball, and is used to illustrate Casey Wood's article on the motions of the eye and their derangements, while the relative positions of the double image in cases of heterophoria are also shown in a coloured plate. Weeks takes diseases of the conjunctiva, cornea, and sclera, and this gives him scope for his extensive knowledge of the bacteriology of the conjunctiva. He divides the diseases of this structure into specific, such as gonorrhœal and diphtheritic conjunctivitis, and non-specific, in which no causative organism has yet been found. An excellent coloured diagram from Orth shows the microscopical appearance of a trachoma follicle, but no organism has yet been definitely found to be its cause. There are also in this chapter some good bacteriological coloured plates.

Würdemann's article on embryology and injuries and diseases of the uveal tract is most complete, and all the usual operations on the iris, etc., are described. Dr. Ellett, who writes the chapter on diseases of the lens, thinks that an extraction following a preliminary iridectomy is the safest procedure, although he describes the other methods as well.

Treacher Collins' chapter on glaucoma is profusely illustrated by numerous photomicrographs, and the section is concisely and clearly written. The eye and its relation to general disease is discussed by Dr. C. F. Clark; while Dr. Veasey gives an account of the general preparations for operations on the eye.

A useful chapter, but seldom added to a book of this kind, is that by Dr. Shumway, on the *technique* of the pathological and bacteriological examination of the eye. It consists of but 20 pages, although it is very useful and is a subject that other authors might with profit add to their books. If this were so, much interesting material would be examined, for it is very difficult for one in practice and with but little time to spare to have to hunt up in a special laboratory book methods and details which he will find in a chapter such as this.

The editors are to be congratulated on the production of the book, which is practical, complete, and thoroughly up-to-date.

Ophthalmological Anatomy. By J. HERBERT FISHER, M.B., B.S., F.R.C.S. London: HODDER & STOUGHTON, 1904. Price 7s. 6d.

We welcome the publication of this concise book on ophthalmological anatomy in the sense of anatomy for the use of ophthalmic surgeons. The volume contains a judicious selection of anatomical information, which every ophthalmic surgeon would like to retain in his memory for every-day use, but which he has previously been obliged to forego owing to its inaccessibility. Few surgeons in active practice have the time or the inclination to wade through the large mass of anatomical and ophthalmic literature, which would be necessary in order to acquire the knowledge which is here presented in a lucid and readable form. This book is written from the clinical standpoint, and is very free from the transcendentalisms of the pure anatomist. This outstanding feature of the work is emphasised by the addition of a series of instructive and illustrative cases at the end of the book.

The anatomical part of the volume is divided into nine chapters. The first four are concerned with the origin and course of the ocular nerves (including the sympathetic). The 5th chapter is devoted to the cutaneous nerves of the head and face and cerebral topography. The 6th is on ocular movements and muscles; the 7th relates to the eyelids and lacrymal apparatus; the 8th to the ophthalmic blood-vessels and intracranial venous sinuses; and the 9th includes the anatomy of the orbit and its surrounding air cells, and some points in development. We can find no fault with the description of these varied subjects, but we think a few more diagrams would help us better to retain the information acquired by reading. In our opinion a scheme of the visual centres and their association fibres would be advantageous, and likewise schemes of the cranial nerves in the orbit of the cervical sympathetic and the course of its fibres to the eye and orbit, and a simple diagram of the connections of the ophthalmic veins and the intracranial sinuses might be included. The diagrams used in the book are thoroughly trustworthy and to the point, with the exception of the three on p. 71, which are not quite in keeping with the text. Possibly this is due to intentional diagrammatic exaggeration calculated to demonstrate more forcibly the varying angles at which the muscles approach the globe in emmetropia, myopia, and hypermetropia.

There is much that is original in the work, and the subject of ocular movements and muscles is dealt with in a novel and exceptionally instructive manner. The merest tyro should have no difficulty in getting an intelligent grasp of the subject after reading this chapter.

The book is thoroughly up to date, and all important recent works on anatomical subjects relating to ophthalmology are referred to.

We have not had the pleasure of reading any medical literature issued by this well-known publishing house before, but we congratulate Messrs. Hodder and Stoughton on the excellent way they have brought out this volume, and wish them every success in their new venture.

NOTES AND ECHOES.

Bowman Lecture.

THE Bowman Lecture — an important fixture in the ophthalmological world— will be delivered at 9 p.m. on June 30th, 1904, by Dr. F. W. Mott upon the cortical centres of vision. Dr. Mott's work upon the central nervous system is so well-known and widely appreciated, both in this country and abroad, that we may be sure he will form no unworthy successor to the long line of distinguished men who have delivered the Bowman Lecture in previous years. The names of the lecturers include Jonathan Hutchinson, J. Hughlings Jackson, Professor Zehender, Henry Power, H. R. Swanzy, Professor Hansen Grut, J. W. Hulke, Professor Leber, T. Pridgin Teale, Sir W. R. Gowers, Professor Snellen, Priestley Smith, R. Marcus Gunn, and Professor E. Fuchs. A roll of that kind speaks for itself, and sufficiently explains why the holding of the Bowman Lectureship confers the blue ribbon of British ophthalmology.

* * * *

Section of Ophthalmology at Oxford.

IF any of our readers have omitted to send in their names as likely to attend the section of ophthalmology at the annual meeting of the British Medical Association at Oxford in July next, they are advised to lose no time in doing so. There is at present every appearance of the accommodation at Keble College, reserved for members of the section, being strained to breaking-point. The meeting is likely to be memorable in the annals of the Association.

* * * *

Deaths.

WE regret to record the recent death of Professor Dobrowolski, of St. Petersburg, a prominent Russian ophthalmic surgeon, at the age of 66 years. Science mourns in him the loss of a distinguished investigator. Dr. Sous has died at Barsac, whither he retired some little time since on account of a constitutional ailment. He practised at Bordeaux, and perhaps his most important contribution to ophthalmological science was his *Manuel d'Ophtalmoscopie*, published in the year 1865.

* * * *

Annals of Ophthalmology.

As announced last month in our columns, a British edition of the American *Annals of Ophthalmology* has recently reached our shores. The name of Mr. Claud Worth appeared on the title-page as British editor. However, during the few short weeks that have elapsed, Mr. Worth has in so many words repudiated the honour thrust upon him, and has refused to identify himself with the new venture. No steps appear to have been taken to fill the vacant editorial chair, and so we presume that if the *Annals* is to appear in this country, it will remain under the control of the American managing editor, Dr. H. V. Würdemann, of Milwaukee. Meanwhile we await further developments.

* * * *

Spectacle Makers' Company.

THE Spectacle Makers' Company, as readers know, have at length, after some slight wavering, decided to institute a special diploma (save the mark!) in eye-sight testing. We were hardly prepared for the information, however, that the National Association of Goldsmiths have requested the City Company to undertake the examination of jeweller-opticians also. The question of this unqualified practice has been brought under the notice of the Ophthalmological Society. The Council have appointed a sub-committee to ascertain the facts and to report thereon. The public have assuredly a right to be guided in this matter by a body of ophthalmic surgeons and physicians of the standing of those who belong to the Ophthalmological Society. The issues have already been greatly obscured by the various interested manifestoes issued by the Spectacle Makers' and other bogus corporations. Indeed, it is high time that not only the ophthalmic surgeons but the whole profession bestirred themselves to face these encroachments. If jewellers and spectacle sellers are to be permitted to undertake medical work, why not instrument makers, electricians, hairdressers, and other tradesmen?

* * * *

Banquet to Dr. D. B. St. John Roosa.

WE gather from the *Ophthalmic Record* (Chicago) that more than three hundred physicians attended a banquet at Delmonico's in honour of Dr. St. John Roosa, the well-known eye surgeon. The banquet also commemorated the twenty-first anniversary of post-graduate medical instruction in the United States, a movement with which Dr. Roosa has been closely identified from the first.

* * * *

Western Ophthalmic Hospital.

ONCE a country house for the children of King George III., the quaint old building in the Marylebone Road has for the last half century been devoted to the cure of diseases of the eye, under the name of the Western Ophthalmic Hospital. The progress of the institution has been remarkable since the year 1892, when admission was made entirely free. That step necessitated the erection of a new wing, which was formally opened on May 10th by the president of the hospital, the Marquis of Ripon. Sir Anderson Critchett was amongst the speakers who testified to the good work done by the hospital.

* * * *

Trachoma in New York.

TRACHOMA has become so rife in New York that the Board of Estimate have appropriated 30,000 dols. to enable one of the city hospitals to set aside several wards for the treatment of the disease. Moreover, the New York Board of Health have determined to adapt a large house for the use of trachoma patients. It is estimated, according to the *Journal of the American Medical Association*, that there are in the city more than 100,000 sufferers from trachoma, most of whom are pupils in the public schools. At present all trachoma patients are being treated in the old Gouverneur Hospital by a staff of physicians and nurses provided by the Board of Health. The New World, as well as the Old, is learning that trachoma, the outcome of dirt, misery, and poverty, is an infectious disorder that may be prevented by the ordinary resources of sanitary science.

* * * *

"Ophthalmol."

THE true inwardness of quacks and quackery was, perhaps, never better exemplified than in an article by Professor Siegrist, of Berne, published in the *Woch. f. Therapie u. Hygiene des Auges* for April 21, 1904. It appears that "Ophthalmol" enjoys a great reputation as a remedy for distempered eyes in many parts of the continent of Europe, and is said even to dissolve cataract. Professor Siegrist set himself to work to investigate a couple of cases where cataract was alleged by the proprietor of the nostrum, one Lindemann, to have been cured by "Ophthalmol." The results of the enquiry might have been predicted. In the first case, that of a man aged 65 years, an immature cataract had become ripened, notwithstanding the fact that a whole array of bottles testified to the reverential devotion of the patient to the remedy. The second case, described as one of cured cataract, was visited by the Professor, who found incipient cataract in one eye and mature cataract in the other. The irony of the situation was that this good lady, who had received enquiries from all parts of the world as to her alleged cure, always returned an affirmative answer to her correspondents. Finally, we are told that "Ophthalmol" is essentially an oil derived from grayling, the secret of whose preparation was handed to Herr Lindemann many years ago by his father-in-law, a fishmonger.

* * * *

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ORIGINAL COMMUNICATIONS.

TWO PECULIAR CASES OF MELANOTIC SARCOMA OF THE CONJUNCTIVA.

By R. W. DOYNE, M.A., F.R.C.S.,
READER IN OPHTHALMOLOGY IN THE UNIVERSITY OF OXFORD, ETC., ETC.

The peculiarity consisted in the fact that there was in each case a large area of pigmented conjunctiva quite unconnected with the actual pigmented growth: in the first case the growth was at the inner canthus, while the pigmented conjunctiva occupied a broad area on the so-called tarsal cartilage of the upper lid; in the second case the growth was near the margin of the upper lid and the pigmented area on the conjunctiva of the lower lid. A further remarkable peculiarity was that in the first case, after free removal of the growth, and some of the subsequent recurrent growths, the pigmentation of the conjunctiva, within nine months, entirely disappeared of its own accord. Moreover, the situation where it had been present was never subsequently attacked, although twenty-five recurrences affecting other parts of the conjunctiva were excised during 3½ years, after which time local recurrences ceased.

The following are the notes of the cases :—

No. 1.—F.D., aged 49 years, came under my care at the Oxford Eye Hospital on May 6, 1896. There was growing from the left membrana nictitans a small, red, moveable swelling connected with pigmented thickened conjunctiva, which extended upwards on the ocular conjunctiva beneath the upper lid. Quite unrelated with this growth there was a broad "sooty" stain of the conjunctiva on the "tarsal cartilage" of the upper lid. The conjunctiva did not appear thickened or raised in any way except by the pigmentation.

The only effectual way of dealing with the pigmented parts would have included removal practically of the whole of the upper lid, necessarily involving loss of the use of the left eye. In the light of subsequent events it would probably have been better to clear out the whole orbit at the first operation, but I hesitated to adopt so heroic a measure and contented myself with freely removing the actual growth and neighbouring pigmented conjunctiva, leaving for observation the pigmented conjunctiva of the upper lid. This operation was performed on May 16, 1896. Shortly after this I brought the case before a meeting of the Ophthalmological Society, on account of the pigmented condition of the conjunctiva. It was suggested by some members that it might have been produced by the patient having used some remedy which stained, although there was no history of his having done so; others suggested the possibility of its being altered blood stain; no one proposed heroic measures.

Microscopic examination of the pigmented conjunctiva connected with the growth showed pigment in the sub-epithelial tissue, and some in the deepest layers of the epithelium. The conjunctival growth itself was pronounced by Mr. S. G. Shattock to be a melanotic sarcoma.

May 27th, 1896, wound had healed; no pigmentation in scar. Pigmentation on upper lid as before. June 10th, 1896.—Pedimentated granulation removed from scar, and base of wound cauterised with silver nitrate. July 1st, 1896.—Small granulation removed from same situation and base re-cauterised. September 3rd, 1896.—Pigmented stain on upper lid seemed to have increased, and some pigmentation of the scar had appeared. September 30th, 1896.—There was some thickening of conjunctiva in upper *cul-de-sac* with granular pigmentation. January 12th, 1897.—Two warty growths were removed from the upper edge of the so-called tarsal cartilage, unconnected with the pigment stain, *which had now nearly disappeared*, lower down on the surface, of the cartilage.

February 23rd, 1897.—*All pigmentation gone (or almost so) from seat of wound and from upper lid,* but in the upper *cul-de-sac* was a mass of granulations which were excised. [There are no further notes of any pigmentation of conjunctiva over tarsal cartilage or of the seat of original operation.] March 11th, 1897.—Large pedunculated granulation in upper fornix and one from the upper edge of cartilage, removed. April 13th, 1897.—Granulation removed from upper *cul-de-sac*. August 13th, 1897.—Granulation extending slightly on tarsal cartilage; removed. September 23rd, 1897.—Granulations removed growing from upper margin of tarsal cartilage. October 12th, 1897.—Granulations removed from upper *cul-de-sac*; they were slightly pigmented as was the conjunctiva although not thickened at upper fornix. November 30th, 1897.—Granulations, one pigmented, removed from same situation as last operation.

January 4th, 1898.—Granulations removed from same situation. January 19th, 1898.—Extensive granulations, with one pigmented patch, removed from same situation. March 30th, 1898.—Slight granulations removed. April 27th, 1898.—Granulations removed. May 24th, 1898.—Granulations in same situation, *i.e.*, upper *cul-de-sac*, removed, and one deeply pigmented exactly at fornix. June 13th, 1898.—Large granulation had appeared at outer canthus; removed. September 20th, 1898.—Granulations removed, but there is no note as to situation. October 13th, 1898. —Granulation removed from outer canthus. November 8th, 1898.—Deeply pigmented granulation in upper *cul-de-sac* removed. November 22nd, 1898.—Very extensive granulations removed, but the situation not noted. December 14th, 1898.—Granulations were removed from upper fornix, from upper margin of tarsal cartilage, and from outer canthus.

January 17th, 1899.—As granulations had recurred at all above three situations, patient was admitted into hospital for freer excision. The upper *cul-de-sac* was practically removed with scissors, and also a large piece (about ⅓) of the upper margin of the tarsal cartilage towards the outer side surrounding the spot from which the recurrences had mainly grown. The granulation at external canthus was also removed, but not so freely. April 19th, 1899.—Upper lid had healed well but there was a small granulation at outer canthus which was removed. July 5th, 1899.—Granulation at outer canthus slightly pigmented; was very freely removed; under upper lid there was a clear cyst, probably formed by blocked tear duct. September 26th, 1899.—This was the last occasion on which I saw patient; there had been no recurrence, but the clear cyst remained without alteration under upper lid.

Subsequently the patient came under the care of Mr. Cuthbert S. Wallace, F.R.C.S., at St. Thomas's Hospital. The following are his notes :—

F. D., male, aged 54 years, a farmer, was admitted to St. Thomas's Hospital in June, 1901. He had suffered from indefinite abdominal pains for two years, during the last six months of which period the pain had increased in severity. A tumour had been noticed for three months, and the patient had lost weight considerably during this time. The bowels were inclined to be constipated. The tumour formed a hard nodular mass in the anterior part of the right loin, and was not displaceable. Putting aside the tumour and some pallor of the skin, there were no other signs of disease. The abdomen was opened, and the tumour explored, and found to have its seat in the jejunum. The great omentum, transverse colon, and the tip of the appendix were matted to it by soft and easily-broken adhesions. The whole cavity of the abdomen was then explored for other growths, but none was found. The tumour was, therefore, excised, and a circular enterorraphy performed, and the abdomen closed. The union of the bowel proceeded satisfactorily, but the abdominal wound gave way and retarded convalescence. The patient left the hospital in July, 1901. Towards the end of August the growth returned in the liver and in the scar. The patient died on September 8th, 1901. The nature of the growth was not recognised until the patient had left the hospital. *Description of Specimen* (in the Museum of the Royal College of Surgeons).—Portion of small intestine (jejunum) which is the seat of a pigmented growth, shown by microscopic examination to be a melanotic sarcoma of the round-celled variety. The new growth completely encircles the bowel for a distance of about two inches, and forms externally a tuberous annular elevation of varying prominence. Along the attached border of the gut it has in places extended through the muscular coat, and lies in the contiguous fat of the mesentery: elsewhere it is smoothly covered with the peritoneum. Although the growth is so extensive, its sloughing and ulceration have prevented the occurrence of intestinal stricture. *Microscopic Examination.*—The microscopic section presents widely distant strands of connective tissue, between which lie the cells that compose the bulk of the tumour. The cells themselves are polygonal in shape, and lie closely together without any very obvious intercellular substance. The capillaries run between the cells without any accompanying connective tissue, and have a proper endothelial lining. The pigment is unevenly distributed throughout the growth, and consists of brown granules, which are either scattered through the protoplasm of the cell or collected into definite masses. The growth must, for these reasons, be classed as a melanotic round-celled sarcoma.

No. 2.—The second case was that of an old lady, aged 70 years, who came under my care last spring at the Royal Eye Hospital, Southwark. She had a pigmented pedunculated growth from the conjunctiva of the right upper lid close to the tarsal margin and a "sooty" stain in the conjunctiva of the lower lid covering about one-third of its whole area. The two were quite unconnected. The growth was removed, as also a small recurrence about two months later at the same situation, while the lower pigmented conjunctiva remained *in statu quo*.

On January 15th, 1904, the patient again presented herself at the Hospital, complaining of pain and swelling of the right upper lid. There was a recurrence of the sarcoma affecting the upper eyelid, the inner two-thirds of which were occupied by an oval, semi-elastic, more or less movable mass. A pigmented mass, of irregular shape and as big as a horse bean, grew from the depths of the lid, probably from the tarsal plate, and bled on the least manipulation. The glands were not enlarged; and the patient appeared to be in fair health. On January 25th, under chloroform, the growth, with a portion of the upper lid, was removed, and the parts brought together with several points of silk suture. A morsel of the pigmented conjunctiva was removed from the lower lid for microscopic examination. The parts healed well, and when the patient was seen several weeks after the operation, there was extremely little deformity of the upper eyelid.

Microscopical examination of the tumour showed it was a large round-cell sarcoma, containing here and there groups of pigmented cells. The pigmented conjunctiva of the lower lid showed diffused pigment immediately below the epithelium, and deeper down, large, pigmentary cells. No evidence of new growth could be made out in the latter sections, of which many were examined by Mr. Sydney Stephenson.

CLINICAL, PATHOLOGICAL, AND THERAPEUTICAL MEMORANDA.

AN APPEAL FOR AN INTERNATIONAL COMMISSION FOR THE EXACT DETERMINATION OF PIGMENT HUES TO BE USED FOR SIGNALLING BY COLOUR.*

By

CHARLES A. OLIVER, A.M., M.D.,

SURGEON TO THE WILLS' EYE HOSPITAL, PHILADELPHIA, PA., U.S.A.

The conditions under which signal-colours for railway and marine service and for use in the army and navy are employed are so varied, and the choice of exact tinting of the colours themselves are so arbitrary, that no absolute dependence can be placed upon the results that are practically obtained during their every-day use in such work. For example, individual experience in different parts of the world has time and again convinced me that the coarse empiricial selections of gross pigment hues used for railway signalling have evidently too often been selected by ignorant mechanics or employed by reason of the mere accident of ready possession.†

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* An appeal similar to this was made by the writer at the last annual meeting of the Mexican Ophthalmological Society.

† England has some of its most important railways protected by the Abney system of carefully-selected red and green colour, values that have been made to conform with the character and the nature of the artificial illumination used.

This is only too apparent to any chance observer who may be placed in such a situation as to have many of the usually employed signal lights simultaneously exposed to his view. Under such circumstances he cannot fail to notice the variability of tint and hue, in, for example, the numerous supposedly identical signal lights used in any of the large railway yards, or not see the inconstancy of colouration in the colour signals that are employed on the many boats that are almost constantly plying in busy harbours; each combination of colour, and of colour alone ofttimes representing the entire question whether a definite action must or must not be taken—and this action the ofttimes only possible answer that is decisive for safety or for dangerous accidents.

As before noted by me,‡ "the character of the illuminant itself is of the greatest importance, and yet, how seldom until recently, in a measure in England, has it been considered." For instance, diffuse daylight in the United States of America is bluish; the zirconia or metallic oxide mantels of the Welsbach light made incandescent by the admixture of air and ordinary illuminating gas, give a greenish or nearly white tint; oils, illuminating gas, and the varying shades of carbon loops made incandescent by electrical currents, emit varying degrees of yellow rays; and even arcs of electricity, especially when the current is rapid and strong, appear purplish. Is it any wonder, therefore, that signal colours placed under such varying conditions, change not only in regard to their special tones of hue, but also to their very hues.

In the hope of a practical and an useful result to us all, I would respectfully beg to state that such inefficiencies of colouration of signal tests can, and should be, set aside by the employment of pigment hues in such work, that are equivalent, for example, to the midway bands in the corresponding portions of the solar spectrum. We should, therefore, endeavour to gauge these selections accurately, both analytically and mathematically, by an International Commission. These should be reproduced in pigment form after a concensus of examinations by sectional (or national) sub-committees of competent observers possessing normal colour vision. These tints can then be properly employed for signal boards, signal lights, and test-colours given in any special locality. In addition, the tests to be used by artificial light, or by modified daylight in different situations, can be constructed under the same general average stimuli that are to be actually employed in the future.

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‡ "Some of the Inefficiencies of the Methods Ordinarily Employed by Railway Surgeons for the Detection of Subnormal Colour-Perception (Colour-Blindness)." *Annals of Ophthalmology and Otology*, October, 1896.

TWO CASES OF PREMATURE DELIVERY OF THE LENS IN ITS CAPSULE DURING CATARACT EXTRACTION.

By T. HARRISON BUTLER, M.D.,

ASSISTANT SURGEON TO THE BRITISH OPHTHALMIC HOSPITAL, JERUSALEM.

Case 1.—Salim, aged 48 years, a negroid Bedouin from Arabia, was admitted to the British Ophthalmic Hospital at Jerusalem in October, 1903, suffering from senile cataract in both eyes.

History quite untrustworthy.

V.R.=Hand-reflex. T.n. but firm.

V.L.=Hand-reflex. T.n. but firm.

Projection good on right side, and fair on left, but patient has such limited intelligence that it is probably better than it appears to be. Both pupils dilate fully and regularly with homatropine. The left lens is opaque, white, and dense in appearance, and quite homogeneous. The right lens presents similar appearances, but it is not quite so dense. The lids are normal and the corneæ clear.

Operation.—A left corneo-scleral section of ample size was made, and as soon as it was completed, the lens was spontaneously delivered in its capsule, followed by a little vitreous. At the same time the iris prolapsed. An attempt was made to perform an iridectomy, but the patient strained and refused to look down. Every attempt was followed by renewed escape of vitreous, so the eye was tied up. The capsule contained soft matter with a central harder nucleus, in fact, an over-ripe cataract.

The eye did perfectly well ; there was no sign of irritation and the wound healed rapidly.

At the end of a fortnight V.L. with *plus* 11 was 6/60. The pupil was drawn upwards, and iris was seen healed into the wound. The central part of the vitreous was occupied by a large opacity through which the fundus could be seen only with difficulty. Eye quite quiet, and not injected.

As the patient had shown so little control, it was thought that the accident might be repeated at the second operation, and a preliminary iridectomy was performed on the right eye. This was carried out without accident, but patient strained very much. Five days after this second operation, patient had an attack of acute muco-purulent conjunctivitis affecting both eyes. This lasted only three days, being cut short by painting the lids with nitrate of silver, 2%, but it was accompanied by slight iritis of the right eye, followed by some posterior synechiæ. Most of these broke down under atropine, but some remained peripherally, and the pupil did not dilate quite regularly. In consequence the second cataract was not extracted, but patient sent home until the eye had quieted down.

Case 2.—Khalil, an Arab, aged 45 years, was admitted a week after the first case, also suffering from cataract in each eye.

V.R.=fingers counted at one mètre. T.n.

V.L.=hand-reflex. T.n. but firm.

Projection good in each case. Pupils dilate fully and regularly with homatropine. The left lens is uniformly opaque, homogeneous in appearance, and yellowish-white in colour. The right cataract is incomplete. There is long-standing trachoma of both upper lids with much cicatricial change. No discharge from the lids. A few lashes, in-turned from the left upper lid, were epilated.

Operation.—The section was made, as in first case, in the corneo-scleral margin. Patient was restless and strained much during the section. As soon as it was completed, the lens was at once spontaneously delivered in its capsule. A prolapse of the iris took place, and it could not be treated, for the patient would not look down. There was a slight escape of vitreous. The wound healed well, and there was no injection of the eye.

The pupil was drawn up into the wound, and iris tissue was seen to have been included between its lips. The fundus could not be seen when patient was discharged, on account of opacity of media. The vitreous was full of large floating opacities. Although the lens had been extracted in its capsule, there was a well marked opaque membrane in the usual position of opaque capsule. This was sufficiently dense to call for needling in an ordinary case.

Remarks.—The difficulty in both these cases was not the sudden escape of the lens or the loss of vitreous, but the fact that there was a large encleisis of the iris which could not be remedied. Had a general anæsthetic been given to allow of an iridectomy, there was the chance that during struggling or vomiting there might have been further loss of vitreous. In each case the tension, although not actually *plus* was certainly firm. A similar case is recorded by Captain D. J. Collins in the *British Medical Journal*, January 3rd, 1903, page 16.* In this case the after-vision was good, but there was apparently no prolapse and no vitreous disease. In both the cases recorded above, the vitreous was diseased, and probably there was weakness of the suspensory ligament.

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*See OPHTHALMOSCOPE, Vol. I (1903), p. 59.

CURRENT LITERATURE.

NOTE.—Communications of which the titles only are given either contain nothing new or else do not lend themselves to abstract.

I.—ANATOMY, PHYSIOLOGY, PATHOLOGY, AND BACTERIOLOGY.

Lister, W. T.—Pathological Report on a Case of Mooren's Ulcer of the Cornea. *Royal London Ophthalmic Hospital Reports*, vol. 15, part 4, October, 1903.

The patient who suffered from this condition was a man, aged 48 years, whose right eye had been affected for twelve months. The eye was blind and the cornea was quite opaque. The eye was excised on account of pain. Upon section the most striking feature of the ulcer is the depth and the undermining of its edges. Its depth is from one-third to one-half of the thickness of the cornea. The floor shows much interstitial infiltration. The deepest layers of the cornea show little or no changes. The edges are undermined from ½mm. to 1mm. Bowman's membrane is completely absent, and the corneal lamellæ are greatly altered. The substantia propria is thinner than normal, and shows marked interstitial changes. C. D. M.

Lapersonne, F. de and Opin.—Peripapillary Sarcoma. (**Sarcome pèripapillaire.**) *Archives d'ophtalmologie*, T. XXIII (1903), p. 689.

A greyish elevation involving the posterior pole of the fundus was found with the ophthalmoscope in the eye of a tuberculous woman, aged 41 years. There was a difference of some eight diopters between the summit and the edge of the swelling. Hæmorrhages were present at the spot that appeared to correspond to the site of the optic disc. Tension normal. Vision, fingers at 50 centimètres. Tuberculosis was suspected. For several months the swelling remained without change, and there was neither detachment of the retina nor rise in tension. However, eight months after the first examination, the patient was seized with violent pain, due to acute glaucoma associated with total detachment of the retina. The eye was removed and examined with the following results. Upon opening the eyeball, a sub-retinal, lobulated, pigmented tumour, which covered the back of the fundus for about 15 mm. square, was found. The neoplasm surrounded the optic disc, and microscopically proved to be a spindle-celled melanosarcoma (for an analogous case by Fehr, see OPHTHALMOSCOPE, March, 1904, page 95). S. S.

Birch-Hirschfeld, A.—The action of the ultra-violet rays on the Retina. (Die Wirkung der ultravioletten Strahlen auf die Netzhaut.) *Bericht der Ophthalmologischen Gesellschaft*, Heidelberg, 1903.

Birch-Hirschfeld takes as his theme the action of the ultra-violet rays upon the retina. To the normal eye these rays appear of a lavender-grey colour. Chemically, they are more active than the light rays, cause fluorescence, prolong the striking distance of the electric spark, generate electric currents of low potential, charge neutral bodies, and start electric currents in the retina. Widmark's investigations have shown that they play a not unimportant part in the pathology of the eye. That author thinks that to them is entirely due the so-called "electric ophthalmia," consisting of photophobia, conjunctivitis, chemosis, and, sometimes, corneal ulcers and iritis.

It may be regarded as an established fact that a large part of the ultra-violet rays is absorbed by the crystalline lens, although the permeability of that body varies considerably in different people. Widmark shows that the ultra-violet rays may have a decided pathological effect upon the anterior segment of the eye, but that the lens may act as a protection to the retina. In order to demonstrate this, we must see how the retina is affected by removal of the lens, and ascertain whether the ultra-violet rays cause morphological changes in the aphakic eye which do not arise in the normal eye. Experiments lead us to believe that the lensless eye is more sensitive to the ultra-violet rays than the normal eye. This leaves it uncertain, however, whether the increased vision is due to increased stimulation of the retina by the rays or whether its fluorescence is augmented. Birch-Hirschfeld experimented upon eight rabbits, from each of which he had removed one lens by discission. The animals were then blinded by the ultra-violet rays obtained from an electric arc lamp. It took one-half to three-quarters of an hour to bring about any changes in the lensless eye. The other eye was subjected to the same process for the same length of time. Six hours was the longest exposure given, and even that was not sufficient to cause extensive permanent changes. Indeed, the healthy eye was little affected. The results of the experiments were fairly uniform. The chromatin of the nerve cells of the retina, including the ganglion cells and the granular layers, underwent a kind of dissolution—the volume of the cells decreased and the protoplasm became filled with vacuoles. But the cells did not disintegrate nor did the nucleus shrink. The lesions, in fact, were reparable, for it was found that if the animal were not killed until some days after the experiment, the chromatin had re-formed. On the other hand, Birch-Hirschfeld performed a series of experiments which consisted in blinding animals with sun and electric light, deprived of the ultra-violet and heat rays. There, in addition to changes similar to those enumerated above, there was disintegration of the cells and shrinking of the nuclei, while the pigment layer was much damaged and the choroid hyperæmic. The last two structures had remained unaffected in the previous experiments. In some cases there were rents in the retina. Applying the foregoing observations to human lesions, it seems clear that in blinding by sunlight the ultra-violet rays play little part. In blinding by lightning and by electric light they may take part, but not when the optic nerve is directly subject to the impulse. Snow-blinding probably affects the retina but little. The ultra-violet rays are possibly concerned in the production of erythropsia (red vision). This is the more likely, since the condition sometimes attacks aphakic eyes, as after the removal of cataract. ANNIE T. BARNARD.

Berardinis, De.—Corneal ulcer, with hypopyon, associated with the bacillus pyocyaneus. (Ulcera corneale, con ipopion, da Bacillus Pyocianeus.) *Annali di Ottalmologia*, XXXII., Fasc. 11-12. p. 789.

De Berardinis studied a grave case of ulcer of the cornea associated with pus in the anterior chamber. He isolated and identified the bacillus pyocyaneus, and he succeeded in reproducing ulcerative keratitis by inoculating the micro-organism in rabbits, guinea-pigs, and dogs. A. ANTONELLI.

Ambialet.—Statométrie oculaire. *Recueil d'ophtalmologie*, XXV (1903), p. 318.

Broca, A.—The theory of Skiascopy. (Théorie de la Skiascopie.) *Annales d'oculistique*, T. CXXX. (1903), p. 313.

Santos-Fernandez, J.—The anatomical disposition of the nasal canal in the negro. (Disposition anatomique du canal nasal chez le nègre.) *Recueil d'Ophtalmologie*, XXV (1903), p. 501.

Santos-Fernandez concludes a somewhat elaborate communication, which bristles with figures, thus: (1) The nasal canal in white races is longer and more tortuous, facts which explain the greater predisposition to affections of the lacrymal passages. (2) The nasal canal in the negro is large and rectilinear, which explains why contractions and affections of the sac and lacrymal canal are less frequent in coloured people and in half-breeds than in white persons.

Ahlström, Gustav.—On the knowledge of traumatic, serous cysts of the iris. (Zur Kenntniss der traumatischen, serösen Iris-cysten.) *Centralbl. f. prak. Augenheilkunde*, September, 1903.

A man, 32 years of age, whilst engaged in chiselling a block of iron, was struck by a splinter of the metal in his left eye. When seen by Ahlström a few hours after the accident, there was a small perforating wound in the lower-inner quadrant of the cornea, 2 mm. from the limbus. A fragment of iron was seen to be partially embedded at a corresponding spot in the iris. The metallic splinter was extracted by a magnet introduced through a corneal incision. Three days later the eye was free from irritation, and vision equalled $\frac{6}{12}$.

The patient returned some two and a half years afterwards ($\frac{\text{6th November, 1899}}{\text{24th April, 1902}}$) with the statement that he had noticed a "bladder" in his eye for about six months, and that the growth was getting larger. Some discomfort and redness of the eye had been present. Vision=6/9. Pupil small but active. Two cysts lying in contact with one another were found in the lower-inner part of the iris. The larger was about the size of a hemp-seed, and its smooth anterior wall was so thin as to be almost transparent. Its colour was whitish-grey, speckled with pigment. The other cyst was about half as large, was of a darker colour, and appeared to have thicker walls. The cysts were removed, and the patient made a good recovery.

The piece of iris bearing the cysts was hardened in formol and alcohol, embedded in celloidin, and cut with the microtome. As regards the larger cyst, its anterior wall was made up of much attenuated tissue, while its posterior thicker wall was formed of normal iris tissue, with dilated vessels here and there. The interior of the cyst was lined by pavement epithelium, three to five cells thick. As to the smaller cyst (collapsed in part), it lay wholly in the iris, the stroma of which had become, as it were, divided into two layers. It was lined by flattened epithelium, like that belonging to the larger cyst. No basal membrane was present beneath the epithelium. Its contents were made up of mucous coagula.

After examining critically the theories of Schmidt-Rimpler, Wecker, and Eversbusch, with regard to the mode of formation of iris cysts, Ahlström concludes that the present case can be explained only on Rothmund's view, namely, that it was due to the penetration of epithelium into the interior of the eye.

S. S.

Schilling, Rudolf.—A contribution to the pathology of anomalies of the vessels and the formation of stripes in the Retina. *Archives of Ophthalmology,* May, 1903.

Opin.—A note upon several points of technique relative to the examination of the optic nerve by Marchi's method. (Note sur quelques points de technique relatifs à l'examen du nerf optique par la méthode de Marchi.) *Archives d'ophtalmologie,* janvier, 1904.

In order to avoid abnormal microscopical appearances, Opin recommends that the optic nerve, which is to be stained by Marchi's method, be removed from the body in such a way that the myeline substance may not be injured. Thus, after opening the skull, the nerve is to be taken away with the osseous foramen, and at once placed in Müller's fluid, where it remains 8 to 15 days. The bone is then removed, and the nerve divided into three pieces with a razor without exercising any pressure with the fingers. The pieces of nerve are next placed for eight to fifteen days in Marchi's fluid, and, after thorough washing, are embedded in paraffin, and fine sections are cut. Stained and unstained specimens should be examined. The best stains are hæmatein and Van Gieson. Picro-carmine in this particular process does not yield good results. Attention is drawn to the black deposits, first described by Siegrist, in the septa which divide the bundles of nerve fibres. These black points, which are due to escape of the myeline substance, are best marked near the points of section, especially when the nerve has been cut with scissors. Another appearance seen by Opin in sections of the normal optic nerve when stained with hæmatin and Van Gieson, is described, *viz.*, an accumulation of the black spots around but not within the neuroglia cells. Two figures are appended to the original communication for the purpose of illustrating the changes described.

S. S.

Cordiale.—Ophthalmometrical studies. (Études ophtalmométriques.) *Annales d'oculistique,* T. CXXX. (1903), p. 225.

Bergh, Van den.—Subjective Skiascopy. An original method of determining refraction. (Skiascopie subjective. Procédé original de détermination de la réfraction.) *Annales d'oculistique,* T. CXXX. (1903), p. 255.

Ruge, Sophus.—Pathological studies upon sympathetic ophthalmia, and its relations to the other traumatic and nontraumatic forms of Uveitis. (Pathologisch-anatomische Untersuchungen über sympathische Ophthalmie und deren Beziehungen zu den übrigen traumatischen und nicht traumatischen Uveitiden.) *Von Graefe's Archiv für Ophthalmologie*, Bd. 57, 3, 19. II. 1904.

Ruge tries to find an answer to the following question: does there exist any anatomical point of difference enabling us to decide whether any individual case of traumatic uveitis is one likely to set up sympathetic ophthalmitis in the other eye. The author has certainly had exceptionally large experience, since he has examined no fewer than twenty-six eyes which were excised after sympathetic disease of the other eye had started, besides two eyes which had "sympathized." These cases are set against thirty-four other eyes removed on account of traumatic iridocyclitis, uncomplicated by sympathetic ophthalmia, and also ten cases of iridocyclitis of non-traumatic, constitutional, or unknown causation (idiopathic uveitis). Ruge analyses these cases in a thorough and detailed manner, although much repetition cannot be avoided, which makes his paper inordinately long. As might be expected, no essential pathological-anatomical difference exists between sympathetic and simple traumatic iridocyclitis, the difference being one of degree only; the inflammation of the sympathizing and "exciting" eye is also of exactly the same nature. There are, of course, well known differences between syphilitic, tuberculous, and traumatic uveitis, and Ruge lays particular stress on the essentially different character of tuberculous uveitis, as a partial identity has been assumed (Peters). But traumatic cannot always be distinguished from idiopathic uveitis. Ruge makes a special point of the presence or absence of "giant-cells," but even these, although, as a rule, more abundant in cases leading to sympathetic ophthalmitis, are also found in eyes free from that redoubtable complication. R. GRUBER.

Monesi, L.—The morphology of the lacrymal passages of the human fœtus. (Sulla morfologia delle vie lacrimali fetali nell'uomo.) *Annali di Ottalmologia*, Vol. XXXIII, Fasc. 3-4, p. 226.

Monesi's very interesting paper, illustrated by sixty beautiful cuts, completes our knowledge of the normal and pathological anatomy of the lacrymal passages. The details it contains do not lend themselves to a short abstract, and they should be read in the original communication.

A. ANTONELLI.

Verhoeff, F. H.—A Hitherto Undescribed Membrane of the Eye. *Royal London Ophthalmic Hospital Reports*, October, 1903.

While studying the external limiting membrane of the retina in a section of a normal eye, the writer was surprised to find it continued on at the margin of the disc and passed into the pigment epithelium, where it could be followed until the gradually increasing pigmentation hid it from view, When bleached it was seen that the membrane was present in the pigment layer. The best stain for it was Mallory's phosphotungstic acid hæmatoxylin, but alum hæmatoxylin and eosin were nearly as good.

Staining shows that both this membrane and the external limiting membrane have the same structure, *viz.*: a substance closely allied to neurolgia, and at some places near the margin of the disc they are continuous. It is in no way similar to the hyaloid membrane. The membrane in the pigment layer is undoubtedly a product of the cells which project through it, and it seems clear also that the external limiting membrane must have a similar origin, and the natural conclusion is that the rods and cones and the cells of the pigment layer are essentially of the same nature, and the former are really only modified spongioblasts.

As is well known, in the rosettes of glioma retinæ there is a membrane, which on cross section appears to be identical with the membrana limitans externa of the retina, and sections fixed in Zenker's fluid show conclusively that the membrane of the rosettes is a fenestrated structure, similar in every way to the membrana limitans externa and the membrane of the pigment cells. The structure of this membrane in the rosettes explains why the latter assume their peculiar form, for if a few cells are bound together by such a membrane, and their growth is otherwise unhindered, they must form a more or less spherical body. If the free ends of the cell groups did not finally meet, a spiral figure would be produced as is often seen.

The author concludes that the terms glioma retinæ and neuroepithelioma retinæ are both inappropriate. The rods and cones are not nervous elements but modified ependyma cells and analogous to sensory epithelium.

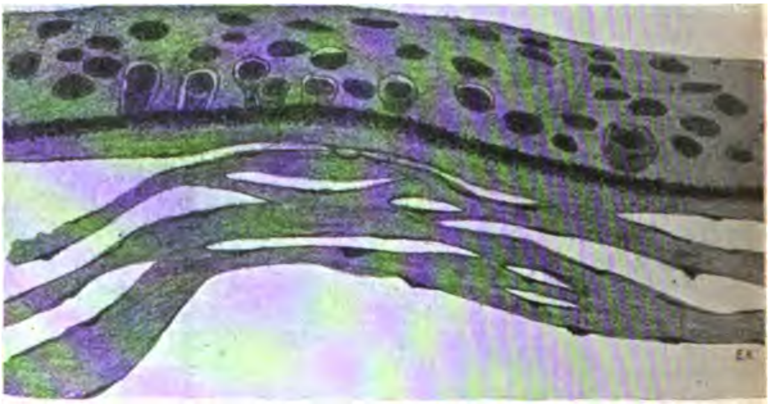
C. D. M.

Savage, G. C.—Muscle study in the light of neuricity, tonicity, and contractility. *Ophthalmic Record*, January, 1903.

Verhoef, Frederick H.—A simple test for stereoscopic vision. *Ophthalmic Record*, May, 1903.

Kalt, E.—Upon primary zonular opacity of the Cornea. (Sur l'opacité en ceinture primitive de la Cornée.) *Annales d'oculistique*, T. CXXIX (1903), p. 327.

Kalt's patient, a man aged 73 years, suffered from typical zonular opacities of each cornea, of some years' standing. He was subject to chronic muscular rheumatism and to " gravel "; his urine contained an excess of phosphates. The left cornea was scraped, and the fragments thus removed were submitted to microscopical and chemical examination. The superficial layers of the cornea, Bowman's membrane, and the anterior epithelium showed no particular alterations, except that the number of basal cells in the last-named structure was diminished. The striking point was that Bowman's membrane and the basal cells were invaded by a granular, opaque substance of greyish tint, staining well with hæmatoxyline and thionine, and disappearing after immersion in rubine and picric acid. Under these circumstances, Bowman's membrane appeared with its usual clearness, without prominences or notchings as regards the epithelium. Acetic acid neither dissolved the substance nor led to the evolution of gas. Sulphuric acid had no action, although the exudation was at once cleared by hydrochloric acid. In short, various chemical tests led to the conclusion that the exudation between the epithelium and Bowman's membrane consisted of a concentrated solution of phosphate of lime, a salt probably held in solution by carbonic acid. Kalt explains the usual position of the zonular opacity, namely, just below the central zone of the cornea, on the assumption that the calcareous particles are driven into that position by the incessant movements of the eyelids, especially of the upper one. Gravity may have



an influence. With regard to the treatment of zonular opacities, Kalt recommends the grape cure, and a stay at such mineral stations as Vittel, Contrexéville, and Evian. The administration of urotropin, which has a manifest action upon gouty deposits, may be tried. Attempts may be made to modify nutrition by injecting sodium chloride beneath the conjunctiva around the cornea. Surgical intervention should be limited to a simple scraping away of the epithelial layers of the cornea over the deposit.

II.—DISEASES AND INJURIES OF THE EYE AND ORBIT.

Senn, A.—Astigmatism of the cornea and central choroiditis in Myopia. (Astigmatismus der Hornhaut und central Choroiditis der Myopen.) *La Clinique Ophtalmologique,* 10 décembre, 1903, and *Die Ophthalmologische Klinik,* 5 Januar, 1904.

Astigmatism is represented by Senn as the chief factor in producing macular changes in myopic eyes. Hence the great importance of fully correcting that anomaly of refraction after having determined it by means of the ophthalmometer and, usually, the repeated instillation of atropine. The careful correction of astigmatism alone will not prevent choroidal changes, but in combination with subconjunctival injections of mercurial preparations (solution of mercury cyanide, 1 : 5,000), plays an important part in the treatment.

C. MARKUS.

Lediard, H. A.—Dermoid Cyst of Orbit, causing dislocation of eyeball. *Trans. Ophthalmological Society,* Vol. XXIII, 1903.

A man, aged 49 years, had suffered from protrusion of one eyeball for 30 years, and failure of sight for twenty years. Lediard found the dislocated eyeball resting on the front of the malar bone. He removed the globe, and evacuated a large cyst, lying in the orbit and extending into the antrum. The contents of the cyst included fatty *débris* and flattened epithelial cells, but no hairs were found. It does not appear from the report that the wall of the cyst was examined microscopically. The termination of the case is not noted.

Ridley, N. C.—Embolism of Central Artery of Retina in a young girl. *Trans. Ophthalmological Society,* Vol. XXIII, 1903.

Ridley's case, one of embolism in a girl, aged 17 years, presents three points of interest :—(1) the youth of the patient; (2) the definite history of rheumatic fever, chorea, and mitral disease; and (3) the fact that the defect in vision was discovered immediately after a fright.

Terson, Albert.—The dermatological classification of ciliary blepharitis. (La classification dermatologique des blépharites ciliares.) *Annales d'oculistique*, T. CXXX, 1, 1903, p. 41.

Cases of blepharitis are divided by Terson into the two groups: (1) suppurative, and (2) non-suppurative. Of these, the first-named is the commonest and most serious. (1) The suppurative forms of blepharitis may originate from impetigo or eczema, or, in children, from a combination of those two dermatoses. Bacteriologically they are associated with s.p. aureus or, less frequently, with s.p. albus. In the light of present knowledge, it is clear they cannot be regarded as varieties of ordinary eczema or even seborrhœa. Their essential lesion is a folliculitis—superficial or deep, acute or chronic. They begin with pustules around the follicles, accompanied by red points encircling the eyelashes. True styes may be simultaneously observed. Terson maintains that blepharitis with abscess and ulcerous blepharitis should now be classed as ciliary folliculitis, which in a certain number of cases runs on into true sycosis. Scrofula, lymphatism, and the other constitutional conditions, so common amongst the patients, probably act by reducing the normal resistance of the tissues to microbic action. It is also likely, he thinks, that some change in the nature of the Meibomian secretion may favour the inoculation and subsequent growth of micro-organisms in these cases. (2) The squamous varieties of blepharitis include several types of disease. For example, those marked by abundant branny scales about the eyelashes and the neighbouring skin, which are probably identical with pityriasis simplex. Staphylococci and the so-called "bottle bacillus" are found in this form of disease. Then, there are cases with honey-like crusts and redness of the underlying skin, and, again, those associated with the demodex. In these forms the lashes are not seriously involved, and although the follicles are not the seat of a pyogenic infection, yet other microbes may be concerned. Terson mentions a case where the only sign of disease consisted in an abundant escape of an oily fluid, which covered the free edges of the eyelids. There were no crusts or scales. The author looks upon this case as a veritable seborrhœa oleosa of Meibomian origin.

A. D.

White, Arthur T.—A case of acute fulminating glaucoma ending in total blindness within eighteen hours of the onset and occurring during the course of severe syphilis. *Lancet*, November 14, 1903.

Brady, George T.—Mucocele of the left inferior Lacrymal Canaliculus. *Ophthalmic Record*, April, 1903.

An elderly woman presented a translucent cyst at the inner margin of one lower lid. It measured 11 mm. by 6 mm. by 3 mm. It was filled with fluid. Pressure failed to discharge its contents through the canaliculus or into the nasal duct. The upper punctum was patent, but the lower was obliterated. Coloured fluid could not be forced from the lacrymal sac into the cyst.

Snell, Simeon.—Numerous instances of Night-Blindness (Retinitis pigmentosa) occurring in five generations, with genealogical chart. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

Scott, G. M.—Retinitis proliferans and detachment of Retina. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

Truc, H.—Chronic Glaucoma in the Young. (Glaucome chronique juvénile.) *Revue générale d'ophtalmologie*, janvier, 1904.

Truc gives a full account of a case of chronic glaucoma developed within two years, occurring in an unmarried lady of twenty-two. Treatment was first of all by myotics, which did not prove satisfactory, and afterwards by iridectomy on each eye. Incidentally the author refers to his previously expressed belief that a wide iridectomy is not necessary in glaucoma. In addition to the early onset of symptoms in this case and their rapid course, there are other special points. The patient's father and mother were first cousins. Her great grandmother on the father's side died blind. A younger sister, aged 10, is well, but was born with two incisor teeth. A brother of 26 has had exophthalmic goître for 3 years, and, lastly, the patient herself is myopic. The author throws out the suggestion that there may be some relationship between the lesions of the sympathetic in the brother with exophthalmic goître, and the sister with glaucoma, and that therefore sympathectomy might be a last resource in both cases. Two other cases, one in a hypermetrope of 20, the other in a myope of 19 years, are given in less detail.

W. ERNEST THOMSON.

Ryan, J. P.—Ulcer of cornea, with a hernia of Descemet's membrane. *Melbourne Ophthalmological Society*, Dec. 10, 1903.

Ryan's patient, a young woman, presented a keratocele the size of half a small pea. This eventually ruptured and led to prolapse of the iris.

Heerfordt, C. F.—On [orbital emphysema. (Ueber das Emphysem der Orbita.) *Graefe's Archiv für Ophthalmologie*, LVIII, 1, April 12, 1904.

Orbital emphysema is always due to fracture of the orbital walls, but it is very probable that decreased resistance plays in many cases an important part in its production. It is a remarkable fact that the trauma which produces it is in the majority of instances a very minor one, serious accidents being but rarely associated with the condition. This may be due to either the tendency of the graver kind of traumatisms to be complicated by open wounds by which the air escapes, or perhaps the hæmorrhage or tags of torn tissue stop the gap. All cases can be roughly divided into two groups, the point of distinction being whether the air has got pressure enough to perforate the membrana tarso-orbitalis and thus to escape under the integument of the lids and face, or is retained behind the fascia and is thus bottled up behind the eyelids. The latter group comprises the orbital emphysema proper, the former the orbito-palpebral emphysema. The symptoms of the two are quite different. In cases of orbital emphysema we expect to find : protrusion of the eyeball and swelling of the eyelids, due to pressure of the air from behind the orbito-tarsal fascia, while the lids are firmly shut. Double vision is not uncommon, movement upwards being more generally impaired. Cases of orbito-palpebral emphysema show symptoms of much less gravity ; the escape of air under the skin seems to relieve the symptoms, and the protrusion is less marked, the swelling soft, crepitation of air bubbles under pressure is easily felt, and the patient is able to lift the upper lid slightly. There is also some difference with regard to the swelling ; in palpebral emphysema it spreads equally all over the lid, while in the orbital form a sharp line of demarcation along the insertion of the orbito-tarsal fascia into the tarsus is very marked as a rule, and the swelling does not spread beyond. Besides these symptoms, we must watch for those caused by the fracture of the bone and for general symptoms. The former are rarely marked. They consist in pain on pressure, bleeding from the nose, and perhaps signs of nervous lesions. The general symptoms met with are headache, sickness, and giddiness. The eyeball itself is very rarely affected. The disease generally runs a rapid and favourable course, but in case of orbital emphysema more than a month may elapse before complete recovery takes place. R. GRUBER.

Hubbell, Alvin A.—Interstitial Keratitis, complicating Ophthalmia Neonatorum. *Ophthalmic Record*, August, 1903.

Aron, Th.—Vaccinal Conjunctivitis. (Zwei Fälle von Vaccine-Ophthalmie.) *Klin. Monatsbl. f. Augen.*, Oktober, 1903, and *Woch. f. Ther. u. Hygiene des Auges*, Januar 1, 1904.

Aron points out that a limited number of cases only of vaccinal conjunctivitis have so far been published, and lays stress upon the fact that *restituo ad integrum* has been almost the rule. In the second case reported in the present communication the cornea was so seriously affected that permanent opacity could not be avoided. Aron believes that the parents of babies who have been vaccinated should always be warned against the risks of inoculating the eyes. He enquires whether infection of the margins of the lids by vaccine virus is capable of rendering the system immune to the poison of smallpox.

Ryan, J. P.—A case of inveterate chronic Trachoma. *Melbourne Ophthalmological Society*, Dec. 10, 1903.

Ryan, J. P.—Chronic œdematous swelling of lower eyelid and bulbar conjunctiva. *Melbourne Ophthalmological Society*, Dec. 10, 1903.

The left lower eyelid of a female patient was affected with a firm, elastic œdema, free from pain or tenderness. The lower half of the ocular conjunctiva was in a state of chemosis. The condition had been present for nearly two years. Microscopical examination of a piece of the growth led to the diagnosis of syphilis, although there was neither history nor signs of that affection.

Jackson, Edward.—A type of degeneration involving the central zone of the choroid and retina. *Trans. Amer. Ophthal. Society*, Vol. X (1903), pt. 1, p. 150.

Jackson describes a curious symmetrical condition of the fundus, possibly of congenital origin, observed in two sisters. The central region of the fundus showed choroidal atrophy and pigmentary disturbances. The former shaded gradually from complete atrophy at the centre to almost normal fundus at the periphery of the patch. The pigment was arranged almost like the spokes of a wheel, radiating from the centre of the macula. Minute brown specks of pigment were scattered over the fundus generally. Vessels apparently healthy. "It seems probable," Jackson concludes, "that the case belongs to a type, and that others presenting the same characteristics will be noticed and described, if they have not been previously."

Wood, Casey A.—Blastomycosis of the Ocular Structures, especially of the Eyelids. *Annals of Ophthalmology*, Vol. XXII, No. 1, January, 1904.

Wood states that of the thirty-five cases of blastomycetic dermatitis which have been recorded since Gilchrist described an example of it in 1894, the great majority have been observed in Chicago, and that so far, either the disease is almost an exclusively American one, or its true character has been appreciated only by American surgeons. In about twenty-five per cent. of the cases, the skin of the eyelid is affected. The author reports one case of his own, gives brief abstracts of six published cases, and cites two unpublished examples of the disease from the practice of Drs. Wilder and Fischkin. The author's patient was a healthy girl, fourteen years of age, who presented no evidences of syphilitic or tuberculous taint. Three months previous to the primary examination, the patient noticed a stye-like growth situated on the margin of left lower eyelid. Removal of an overlying scab left a raw discharging sore. When first seen, the growth was twenty-seven by five to seven millimetres long and thick. It was bounded by abrupt, rounded walls of reddened skin. At the intermarginal space the growth had destroyed the dermal edge of the lid. The conjunctiva was red and thickened. Its surface and edges were uneven, and there were minute openings through which a whitish fluid was being discharged. The tumour-mass was soft. The ocular conjunctiva was injected for three-fourths of its extent. The cornea and the iris were normal. Vision equalled nearly 6/6. Beyond a sensation of foreign body with smarting and burning, there was no pain. The eyelids adhered in the mornings. There was not any eruption or tumours elsewhere on the body. Later, the patient was seen by Dr. W. A. Pusey, who found the organisms of blastomycetic dermatitis. A histological examination was made by Dr. Ludwig Hektoen, who reported the typical lesions of blastomycosis, as well as the presence of the typical organisms. The author says that in all the cases hitherto reported the conjunctiva has resisted the advance of the growth. Detailed reference is made to the pathology, the sites of the growth, the methods of infection, the diagnosis, and the treatment. Prognosis is stated to be always good, The masses should be removed, when possible, by excision or curetting, and the use of X-rays. Iodide of potassium should be administered in large doses. Wood states that Drs. Nevin Hyde and F. H. Montgomery have shown that the iodides constitute almost a specific in this form of disease.

F. W. MARLOW.

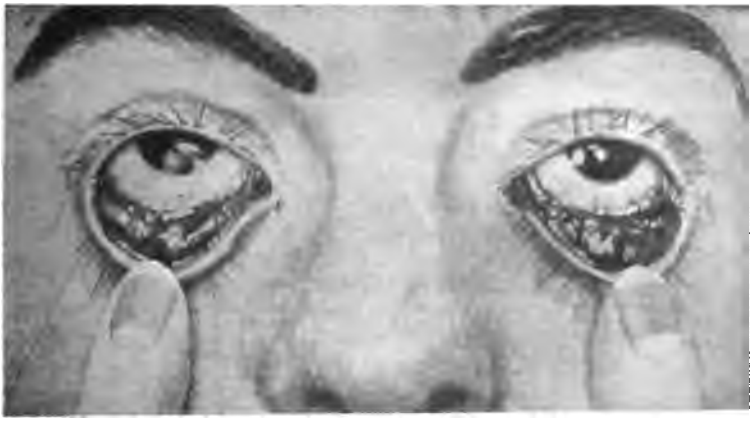
PARINAUD'S INFECTIOUS CONJUNCTIVITIS.

(1) **Chaillous, J.—A contribution to the study of Parinaud's infectious conjunctivitis. (Contribution à l'étude de la conjonctivite infectieuse de Parinaud.)** *Annales d'oculistique*, janvier, 1904.

(2) **Doyne, Robert W.—Septic Conjunctivitis.** *Lancet*, 28th May, 1904.

(3) **Jocqs, R.—A case of Parinaud's infectious conjunctivitis. (Ein Fall von Parinaudscher infektiöser Conjunctivitis.)** *Die Ophthalmologische Klinik*, 5 Juni, 1904.

(1) This article, which occupies twenty-eight pages of the *Annales*, is devoted to a detailed account—histological, clinical, ætiological, pathological, and bacteriological—of the particular conjunctivitis first described by Parinaud in 1889 and sometimes called by his name. After detailing cases reported by Gifford, Wylie, Jocqs, Roche, and adding five of his own, Chaillous sums up the clinical characters and treatment of the disease somewhat as follows: Parinaud's conjunctivitis is nearly always unilateral, and is marked by the presence of numerous conjunctival granulations, of which the colour is red, yellow, or violet, and the size that



BILATERAL PARINAUD'S CONJUNCTIVITIS.

of a large pin's head. The vegetations present some resemblance to those of trachoma or of tuberculosis. They may be accompanied by small erosions or ulcerations of a superficial nature, sometimes situated at the summit of a vegetation. The eyelids are swollen, hard to the touch, and present nodosities which make one instinctively think of a chalazion. Although there is some mucous secrétion, yet there is no true suppuration, strictly speaking. At a variable period after the onset of the conjunctivitis, the preauricular and neighbouring glands become puffy and may even suppurate, and, under any circumstances, they are voluminous, painful, and sensitive to pressure. In one case the adenopathy became generalised. There is a certain amount of constitutional disturbance. The disease undergoes spontaneous cure after several weeks or months, when the granulations disappear without leaving cicatrices. Ptosis and swelling of the glands may outlast the conjunctival inflammation. Cure, as a rule, is complete at the end of three or four months. It is of interest to note that no case has yet been observed in which the conjunctivitis was communicated to those about the patient. With regard to treatment, neither antiseptic washes nor cauterisation of the mucous membrane has yielded useful results. More is to be hoped from the ablation of the diseased tissue or its destruction by the galvano-cautery. Parinaud supposed that this form of conjunctivitis was transmitted to man from the lower animals. It is a fact that in nine of the twenty cases reviewed by Chaillous the patient by reason of his occupation had been exposed to the possibility of an animal infection. On the other hand, in the remaining eleven cases no connection of the kind could be traced.

Pathology.—Pus from a suppurating gland in one of Parinaud's cases was examined bacteriologically with negative results. In 1896 Morax examined the conjunctival secretion from a case without finding anything of consequence. No reaction followed inoculation of the anterior chamber of a rabbit with a piece of affected conjunctiva obtained from the same case. Gifford investigated three cases but found nothing of importance in the secretions ; histologically, specimens from the conjunctiva contained giant-cells. Jocqs' recent work led to the discovery of the streptococcus in the diseased tissues ; tubercle bacilli could not be demonstrated. Chaillous inoculated a guinea pig with diseased material in one case, but without exciting any reaction. Ella Wylie found staphylococci and pneumococci in the conjunctival secretion, but she regarded those micro-organisms as due to an accidental contamination. Three guinea-pigs inoculated with pus from a glandular abscess died from acute peritonitis with streptococci. Two of Chaillous's own cases, examined pathologically by Morax and Manouëlian, gave the following findings: the histological appearances included numerous vessels, granulations, and thickening of the conjunctival mucous membrane, due mainly to an infiltration of the subepithelial tissue with cellular elements (chromophiles and macrocytes). The preauricular gland showed nothing beyond a leucocytic infiltration with many mitotic figures. The inoculation of rabbits with conjunctiva and gland led to no tangible results. In the second case, also examined by Morax and Manouëlian, the results of inoculation were negative. Pronounced subepithelial infiltration, rounded follicles, in a word, the characters of a sub-acute inflammation of the conjunctiva, constituted the histological findings. The point that stands out prominently from these various investigations is that Parinaud's conjunctivitis differs essentially from tuberculous conjunctivitis. The histological appearances and the negative results of inoculation establish an absolute distinction between the two conditions, however much the latter may resemble one another clinically. S. S.

(2) Readers may remember that some clinical notes on "Septic Conjunctivitis" were published by Doyne in the *Lancet* of November 7th, 1903 (for abstract see OPHTHALMOSCOPE, March, 1904, p. 111). The author now suggests that his so-called "septic conjunctivitis" is identical with the "infective conjunctivitis" described by Parinaud and Sans in 1889. Doyne has met with upwards of twenty cases in his own practice, so that the affection cannot well be so rare as stated by Chaillous in the article abstracted above.

(3) Jocqs observed a case of Parinaud's conjunctivitis in a child, nine years of age, the son of a medical man. The history was to the effect that three months before there had been an abscess of the right preauricular gland, which was opened and pus evacuated. A few days later, a painful swelling of the submaxillary glands developed, and at the same time the corresponding upper lid became œdematous, and there was a slight escape of muco-purulent secretion from the eye. Upon examination, Jocqs found incomplete ptosis, and swelling of the temporal half of the upper lid, looking as if the last-named structure were the subject of a deeply-seated chalazion. The tarsal conjunctiva of the upper lid, especially as regards its outer third, and the cul-de-sac, were crammed with granulations, some resembling millet seeds in respect of size and shape, and others of a larger description. No treatment seemed to influence the conjunctival outgrowths, except the local application of the galvano-cautery. Complete cure in two months. No exposure to animal con-

tagion could be traced. Microscopical investigation of excised conjunctiva showed that the latter consisted mainly of epithelial cells and polynuclear and mononuclear leucocytes. Bacteriologically, cocci, diplococci, and short chains were found, but tubercle bacilli were absent. Cultivations, however, were not made. MAX P.

Onfray, René.—Metastatic ophthalmia complicating a cancer of the œsophagus. (Ophtalmie métastatique compliquant un cancer de l'œsophage.) *Archives d'ophtalmologie*, janvier, 1904.

A man, aged 47 years, suffered from a cancerous growth of the œsophagus, for the relief of which gastrotomy was performed. About a month after the operation, unilateral ophthalmitis supervened. Pus removed from the anterior chamber contained streptococci and an anaërobic bacillus, not more particularly identified. The patient died a few weeks later: no autopsy permitted. Onfray believes that infection from the ulcerated surface of the neoplasm led to thrombosis of the œsophageal or posterior mediastinal veins, which are in communication with the pulmonary veins. The septic clot in this way reached the heart, and eventually gained the ophthalmic artery and became arrested in one of the posterior ciliary arteries. H. DE V.

Rollet, Marcel.—Tenonitis. (La Ténonite.) *Annales méd. chir. du Centre*, 1903, No. 23, p. 187, and *Revue générale d'ophtalmologie*, février, 1904.

Rollet describes a case of rheumatismal tenonitis in a man of 64 years. He insists upon rest in bed, the application of very hot compresses, and salicylate internally. The illness lasted three weeks. At the end adrenaline was useful.

H. DOR.

Coppez, Henri.—A case of metastatic carcinoma of both choroids. (Un cas de carcinome métastatique des deux choroïdes.) *Archives d'ophtalmologie*, février, 1904.

Coppez's article, illustrated by two ophthalmoscopic plates in colour, deals with a case of bilateral carcinoma of the choroid in a patient aged 43 years. There was carcinoma of the glands of the lower part of the neck, but this was evidently secondary to carcinoma elsewhere in some undetermined position. The patient died eight months after he was first seen, but no autopsy could be obtained. Coppez surmises that the original mischief was situated in the stomach or some neighbouring organ. H. DE V.

Colucci, G.—Upon Echinococcus cysts of the Orbit. (Di alcune cisti del l'orbita da tenia Echinococco.) *Annali di Ottalmologia*, Vol. XXXIII, Fasc. 1-2, p. 130.

Colucci's interesting *mémoire* contains an account of three new cases, studied clinically and anatomically, of echinococcus cyst of the orbit. A. ANTONELLI.

III.—RELATION BETWEEN EYE AND GENERAL DISEASES.

Dean, Lee Wallace.—Degenerate ocular changes resulting from consanguinity. *American Journal of Ophthalmology*, November, 1903.

Among the changes which Dean considers may result from the marriage of blood-relations may be enumerated retinitis pigmentosa, albinism, absence of iris, microphthalmos, coloboma of choroid, anophthalmos, buphthalmos, glioma, and anterior polar cataract. "Of 181 children in the Iowa College for the Blind in 1900, nine, or about 5%, were the result of consanguineous marriage of the first degree. The number of consanguineous marriages of the first degree in the State of Iowa is far below ½%."

Goux, L. J.—Neurasthenic Asthenopia. *American Journal of Ophthalmology*, November, 1903.

As symptoms pathognomonic of neurasthenic asthenopia Goux enumerates (1) a continued failure of sight under examination; (2) the longer the examination the smaller does the visual field become; (3) a continued uncertainty as to the exact axis of any cylinder that may be needed to correct astigmatism; and (4) a swinging movement of the red streak on employing the Maddox rod test for heterophoria. As general neurasthenic stigmata, Goux gives headache, insomnia, psychic adynamia, motor enfeeblement, spinal hyperæsthesia, gastro-intestinal atony, and genital and vaso-motor disorders.

Gonin.—The ocular lesions caused by lightning. (Lésions oculaires causées par la foudre.) *Annales d'oculistique*, février, 1904.

After reporting a case where lightning caused corneal and lenticular troubles, Gonin gives the following conclusions: (1) the ocular lesions caused by the direct action of lightning differ from those which result from an electric discharge; (2) in most cases the only symptoms common to the two kinds of accident consist in conjunctival and ciliary hyperæmia, diffuse cloudiness of the cornea, cataract, lesions of the fundus of the eye, and motor paralyses are the consequences of electrocution ; (3) these lesions consecutive to the electric discharge may be imputed to a mechanical action of the current upon the integrity of the histological elements and upon the cohesion of the tissues of the eye, as well as to the electrochemical phenomena developed by the current. A. D.

MUMPS.

(1) **Campani.—A rare complication in mumps.** *Gazz. degli Osped.*, August 30, 1903, and *British Medical Journal*, September 26, 1903.

(2) **Roux, H. le.—The ocular complications of Mumps. (Complications oculaires des Oreillons.)** *Archives d'ophtalmologie*, T. XXIII (1903), p. 655.

(3) **Mandonnet, L.—Paralysis of accommodation and of the soft palate consecutive to Mumps. (Paralysie de l'accommodation et du voile du palais, consécutive aux Oreillons.)** *Annales d'oculistique*, T. CXXIX (1903), p. 112.

(4) **Woodward, J. H.—The Ocular Complication of Mumps.** *New York Medical Journal* and *Philadelphia Medical Journal*, Vol. LXXIX, No. 1, 2nd January, 1904.

(1) Campani reports the case of a well-nourished girl, aged 16 years, who during an attack of mumps developed nyctalopia. On January 6th the parotitis began on the right side; this was treated externally with a guaiacol pomade, swelling subsiding in two days. The left side then began to swell, and at this time the sight became dim towards evening and gradually got worse, until absolute night-blindness came on. During the day, save for some slight pre-existing myopia, the vision was good. Internal and external examination of the eye revealed no objective changes. The left pupil was a little dilated. Both pupils reacted well to solar light and slightly to strong artificial light. This nyctalopia lasted the whole time during which the left parotid was swollen—that is, about five days, and then returned slowly to the normal. There seemed no relation between the temperature and the visual phenomena. No internal treatment was given.

(2) Le Roux reports a case in a soldier where retrobulbar neuritis, reducing the sight of each eye to ¼th normal, supervened about a fortnight after the beginning of a mild attack of mumps. The amblyopia disappeared completely after lasting for more than two months. The neuritis was thought to be due to the direct influence of toxins upon the papillo-macular bundle of the optic nerve. Finally, it should be noted that le Roux's patient neither drank nor smoked, and that he gave no history of syphilis or of rheumatism.

(3) Madonnet's patient, a child of 9 years, suffered from paralysis of accommodation and of the soft palate shortly after an attack of mumps, accompanied by high fever. Although the pupils were rather wide, actual mydriasis was not present. There was no history of diphtheria. The paralysis passed off in about a month. It is worth noting that at the beginning of the illness the child complained of diplopia, from which fact Madonnet assumes the existence at that time of a paralysis of one of the extrinsic muscles of the eyeball.

(4) After briefly abstracting the previous publications on this subject, Woodward reports a case of optic neuritis in an eleven year old school girl, who had had a severe attack of mumps, keeping her out of school for three weeks' time, nearly two years' previously. About five weeks after returning to her school, and after reading some fine print by artificial light, she had an attack of severe pain, with permanent dilatation of the pupil in the left eye. The condition was diagnosed as subacute glaucoma with numerous large blotches in fundus which could not be well seen upon account of corneal haze. Vision with that eye equalled perception of light. The upper part of field was blind. Two months later the author found that the right eye was normal. Vision with the left eye equalled perception of light only. The left optic disc was extremely œdematous ; the retinal veins were large and tortuous, and there were a number of whitish streaks which apparently were empty arteries. No evidence of renal or organic heart disease or of systemic taint could be determined. Three months after this, the corresponding retinal arteries and veins of the right eye were nearly obliterated. There were white areas around the optic disc and at the macula. One year later the sclera of the right eye was clear, and the cornea was dull. The pupil was dilated, and there was but little fundus reflex.

F. W. MARLOW.

SCARLET FEVER.

(1) **Strzeminski—The ocular complications observed during an epidemic of scarlet fever, in 1902, at Wilna. (Les complications oculaires observées dans la scarlatine pendant l'épidémie de 1902 à Wilna.)** *Recueil d'ophtalmologie*, XXV (1903), p. 117.

(2) **Sisson, Ellet O.—Rare ocular lesions in Scarlatina.** *American Journal of Ophthalmology*, December, 1903.

(1) During the year 1902 there was, it appears, a wide-spread outbreak of malignant scarlet fever in Wilna, Russia, Strzeminski observed ocular complications in seven cases.

and these he describes at some length in the present communication. They include phlyctenular conjunctivitis (3), phlyctenular keratitis (1), hypopyon-keratitis and dacryocystitis (1), ophthalmoplegia interna (1), and diphtheria of the conjunctiva (1). The ophthalmoplegia interna occurred in a lad, 13 years of age, where the scarlet fever had been complicated with an attack of diphtheria: while in the last case diphtheria of the fauces and nose was also present. In these cases, therefore, the connection between the ocular affections and the scarlet fever was of an indirect nature. H. DE V.

(2) In this brief article Sisson passes under review the ocular complications of scarlet fever, such as amaurosis (uræmic), suppurative hyalitis and choroiditis, abscess of the orbit, thrombosis of the cavernous sinus, papillo-retinitis, and accommodative asthenopia. The operation performed by Wells and Germain (*Boston Medical and Surgical Journal*, May 1, 1902), who exposed, incised, and drained the cavernous sinus, is quoted with approval, and recommended in suitable cases.

MEASLES.

(1) **Trantas.—Upon exanthematous keratitis punctata superficialis in Measles. (Sur la kératite exanthématique ponctuée superficielle pendant la Rougeole.)** *Annales d'oculistique*, T. CXXX. (1903), I, p. 97.

(2) **Morax, V.—Upon some ocular manifestations during the course of Measles. (Sur quelques manifestations oculaires au cours de la Rougeole.)** *Annales d'oculistique*, T. CXXX (1903), p. 104.

(1) During the course of a single year Trantas examined the eyes of 41 patients suffering from measles, and found keratitis punctata superficialis to be present in no fewer than 76 per cent. Considering that three-fourths of the patients manifested this disease, the author is inclined to regard the latter not as a complication but as a symptom of measles. The keratitis usually begins on the third, fourth, or fifth day of the general illness; it disappears without treatment in three or four days; it is almost always bilateral; it may or may not be associated with symptoms of irritation; and sex and age appear to be without influence upon its development. The existence of the keratitis described by Trantas may be helpful in diagnosing measles from the other exanthemata, particularly scarlet fever. S. S.

(2) According to Morax, two distinct types of blepharoconjunctivitis may be observed at the beginning of an attack of measles, *viz.*, (1) a slight and common form, due directly to measles; and (2) a severer form due to an anterior or simultane-

ous infection. The former may precede, accompany, or follow the eruption of measles ; is not associated with any particular micro-organism ; and lasts, on the average, four to five days. The latter form of conjunctivitis is due to pathogenic microbes—as, for example, the Koch-Weeks' bacillus or the Morax-Axenfeld diplobacillus. In one case related by Morax, a child developed conjunctivitis three days after the onset of measles, and the influenza bacillus was found in secretion from the eye. In this case it is probable that the influenza bacillus was in a saprophytic state in the mucous membrane of the nose or the eye, and that it was able to exert its pathogenic powers because the resistance of the conjunctiva was reduced by the zymotic ailment. Zundell has claimed that the influenza and the Koch-Weeks' bacillus are identical, or, more precisely, that both represent one and the same bacillus accidentally modified, an asertion combated by Morax, both on clinical and morphological grounds. On several occasions Morax has seen one member of a family with influenzal conjunctivitis, whilst other members were affected with grippal manifestations of a different kind, and he has also observed in the same subject the ocular lesion followed by an extension of the inflammation to other mucous membranes. A. D.

Vossius, A.—A case of purulent conjunctivitis and iridocyclitis of both eyes after Dysentery. (Ein Fall von eitriger Conjunctivitis und Iridocyclitis bei der Augen nach Ruhr.) *Die Ophthalmologische Klinik,* 20 Januar, 1904.

Vossius remarks upon the rarity of eye affections after dysentery, and states that cycloplegia, optic atrophy, and inflammation of the lacrymal glands have been described under those circumstances. Vossius's case occurred in a male, aged 28 years, who was seized with an attack of typical dysentery. In the third week of the illness, the patient complained of stabbing pains in the region of the prostate, and simultaneously urethritis developed. In the muco-purulent discharge from the urethra, which was not abundant, gonococci could not be found, but the secretion contained numerous bacilli morphologically resembling B. coli. Some days later, bilateral conjunctivitis developed, and bacilli, resembling those in the urethral discharge, were demonstrated in pus from the eyes. Under treatment the ophthalmia gradually improved, but pain increased, the ciliary region became tender, and sight suffered seriously, symptoms found to be due to irido-cyclitis. Rhinitis, lasting a week, complicated the case. At a later stage pains in one knee-joint came on. The patient eventually recovered fully normal vision after an illness lasting about three months.

Vossius points to the likeness between the irido-cyclitis in his case and that seen in other acute infectious diseases, as relapsing fever, influenza, and gonorrhœa. S. S.

EYE AND NOSE.

(1) **Joerss, K.—On the connection between affections of the eyes and nose. (Beitrag zur Lehre von dem Zusammenhang zwischen Augen und Nasenleiden.)** *Klin. Monatsbl. f. Augenheilkunde*, 1903, Band I, p. 469.

(2) **Wolffberg.—A case of blepharospasm caused by an affection of the nose. (Ein Fall von Blepharospasmus durch Nasenaffektion.)** *Woch. f. Therapie u. Hygiene des Auges*, 28 April, 1904.

(1) An account is given of eight cases which came under Joerss's observation in which an affection of the eye arose in connection with a nasal affection, and was cured by removal of the latter. The cases were :—1. Conjunctivitis with spina septi. 2. Epiphora with hypertrophy of the inferior turbinal. 3. Conjunctivitis with hypertrophy of the inferior turbinal. 4. Catarrhal conjunctivitis and marginal keratitis with spina septi and rhinitis hypertrophicans. 5. Hordeolum and blepharo-conjunctivitis with hypertrophy of the inferior turbinal. 6. Recurrence of trachoma with rhinitis hypertrophica. 7. Ciliary neuralgia in an amaurotic eye (injured some years previously), with hypertrophy of the mucous membrane of the middle turbinal. 8. Epiphora with suppuration of the sinus maxillaris.

In cases 4, 5, 6 and 7 the reviewer considers the connection between the nasal affection and that of the eye open to doubt.

A. BIRCH-HIRSCHFELD.

(2) Wolffberg's patient, a girl, eighteen years of age, was seized, after influenza, with severe photophobia, blepharospasm, and lacrymation of both eyes. There was marked hyperæmia of the palpebral conjunctiva, but no disturbance of sight or other obvious change in the eye. All the symptoms disappeared suddenly after the employment of a snuff containing supra-renal extract, menthol, boric acid, and sugar of milk. The paper concludes with some more or less general observations upon the connection between affections of the eye and of the nose. MAX P.

Evans, J. Jameson.—Neuro-Retinitis in Chlorosis. *Lancet*, May 14th, 1904.

Jameson believes that chlorosis and neuro-retinitis stand to one another in the relationship of cause and effect, as maintained by Hirschberg, Gowers, Herschel, Richard Williams, and other observers. He quotes the investigations carried out by Saundby and Eales in fifty cases of chlorosis. Neuro-retinitis was found in 8 per cent. of the cases. Jameson now reports five cases in young women.

Savill, Thomas D.—Hysterical skin symptoms and eruptions. *Lancet*, January 30th, 1904.

Among the hysterical skin symptoms, Savill includes one of some little interest to ophthalmic surgeons, namely, that curious condition known as angio-neurotic œdema, giant urticaria, or Quincke's disease. This was once thought to be due to gastro-intestinal disturbance, but it is now generally admitted to be an angio-neurosis. Savill quotes a case where œdematous swelling of the face, and especially of the eyelids, occurred in a woman immediately before or after the catamenial periods. A second case, in a child six years old, is mentioned. He was subject to sudden swelling of the upper eyelids, face, scrotum, hand, and elsewhere; but as the lad also suffered from purpura he probably had a blood defect in addition to a neuro-vascular defect. Osler has pointed out that cases of angio-neurotic œdema are sometimes benefited by the prolonged administration of small doses of trinitrin.

Galezowski. — Irido-choroiditis with optic neuritis and panophthalmitis in a gonorrhœal cerebro-spiral meningitis. (Irido-choroidite avec névrite optique et panophtalmie dans une méningite cérébro-spinale gonococcique.) *Recueil d'ophtalmologie*, XXV (1903), pp. 309 and 379.

It is somewhat difficult to abstract Galezowski's article, the title of which furnishes little clue to its contents. The paper really consists of the narration of seven more or less well authenticated cases, in which iritis, cyclitis, neuro-retinitis, ocular palsy, necrosis of the cornea, and meningeal symptoms were associated with a history of gonorrhœa and manifestations of rheumatism. In other words, the author attaches great importance to gonorrhœa as a cause of certain eye diseases, even although it has happened many years previously. In this connection it may be remembered that the late John Griffith[*] maintained that one of the commonest causes of iritis was an attack of gonorrhœa, antedating the ocular inflammation by perhaps many years. The following conclusions may be taken as fairly representing Galezowski's views: (1) Irido-choroiditis and iritis with hypopyon may be caused by gonorrhœal rheumatism; (2) Optic neuritis may be observed consecutive to gonorrhœal meningo-encephalitis; (3) These accidents may be complicated with keratitis, occlusion of the pupil, and panophthalmitis, which can be combated only by energetic general treatment.

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[*] *Trans. Ophthalmological Society*, Vol. XX, 1900, p. 83.

S. S.

Fox, L. Webster.—Relation of dental affections to diseases of the eye. *Dental Digest*, February, 1904.

Fox studies the relationship subsisting between the teeth and the eye through the medium of the fifth cranial nerve. He rapidly reviews the literature, but adduces no fresh example of the connection.

IV.—THERAPEUTICS, OPERATIONS, INSTRUMENTS, AND APPLIANCES.

RADIUM.

(1) **Davidson, James Mackenzie.—Radium bromide: notes on some cases in which it has been tried.** *British Medical Journal*, January 23rd, 1904.

(2) **Sichel, Gerald.—A case of Rodent Ulcer treated with Radium.** *British Medical Journal*, January 23rd, 1904.

(3) **Green, A. Stanley.—Notes on two cases of Rodent Ulcer treated with Radium.** *Lancet*, March 19th, 1904.

(1) Amongst the cases treated by Davidson with radium bromide were two instances of rodent ulcer in the neighbourhood of the eye—the first cured by seven exposures to the radiations from the radium tube in twenty days, and the second by seven exposures in about two months.

(2) Sichel reports a case of rodent ulcer of the cheek in a man, aged 65 years, cured by forty-two exposures to radium spread over a period of seventy-eight days. Each sitting usually lasted fifteen minutes; 5 mg. of radium bromide, enclosed in a sealed glass tube, were employed.

(3) Two cases of rodent ulcer, which x-rays had failed to cure, were treated by Green with radium bromide. Exposures, which lasted from five to twenty minutes, were given—in the first case every second day, and in the second about twice a week. The result was excellent.

Galezowski.—Goménol, a natural vegetable antiseptic. (Un antiseptique vegetal natural, le "Gomenol.") *Recueil d'ophtalmologie*, 1903, p. 243.

Galezowski has employed as an antiseptic in eye work a natural terpinol named Goménol, obtained from the *Mataleuca viridiflora*, of New Caledonia. It occurs as a slightly oleagineous liquid, of amber colour, and aromatic smell. It may be used pure, or in watery or oily solution. The aqueous solution, containing 2.5 c.c. to a litre of water, may be employed in much the same way and for the same purposes as boric lotion. H. DE V.

Wood, Casey A.—Exsection of the so-called tarsal cartilage in cases of Chronic Trachoma. *American Journal of Ophthalmology*, July, 1903.

Wood recommends the performance of tarsal exsection (Heisrath's operation) in chronic trachoma where other remedies have failed. On the other hand, it is not indicated either in acute trachoma, or in cicatricial forms where the conjunctival *cul-de-sac* has become shrunken. Wood prefers to operate under a general anæsthetic. The upper lid is everted, and the convex border of the tarsus is grasped by two pairs of toothed forceps, which are then turned upwards, so as to expose the retro-tarsal folds fully. An incision, involving conjunctiva only, is next made from the outer to the inner canthus, and three sutures are passed through the bulbar margin of the incision. The sutures are of black silk, prepared by a modification of the process recommended by Claud Worth in advancement operations upon the recti muscles. Wound upon microscopic slides, they are boiled for thirty minutes, dehydrated by immersion in absolute alcohol, and placed in a jar of paraffin containing 25 per cent. of vaseline, where they remain until used. To resume, the bulbar conjunctiva should be separated from the globe for 3 mm. to 5 mm. from the edge of the wound. The forceps are removed from the convex border of the tarsus, and the margin of the lid is grasped with them at its middle point, and a horn spatula being placed in position, the lid is everted over that instrument. A second incision running parallel to the lid edge, at a distance of 3 mm. or 5 mm. from the latter, is now made. The spatula is removed, and the lid is drawn upward and backward by means of forceps. The surgeon then seizes the tissues at the nasal junction of the two incisions, and with scalpel and scissors slowly excises conjunctiva and tarsus, avoiding the orbicularis and Müller's muscle. The lips of the wound are then brought together. The after-treatment comprises irrigation with warm boric acid solution four or five times daily, followed by the instillation of warmed, sterile vaseline. Both eyes are bandaged, but the patient need not remain in bed. The sutures are removed on the fourth or fifth day. In a week or ten days the wound, as a rule, is healed, but the conjunctival sac should subsequently be examined for the presence of granulation tissue.

Fedorow.—Peronine in Glaucoma. (**Peronine pri glawkome**). *Westnik Ophtalmologii*, 2, 1903, and *Rev. générale d'ophtal.*, 31 mars, 1904.

Fedorow, from his personal experience, draws the following conclusions with regard to the action of peronine in glaucoma: peronine causes glaucomatous pains to disappear and increases vision, which does not fall during the course of treatment.

A. MAKLAKOW.

Dianoux.—Within what limits does enucleation protect from sympathethic ophthalmitis? (**Dans quelles limites l'énucléation préventive met-elle à l'abri de l'ophtalmie sympathique?**) *Annales d'oculistique*, T. CXXIX, 1903, p. 443.

In view of workmen's compensation, Dianoux sets himself to enquire what is the actual protection afforded by removal of an injured eye undertaken before the latter has produced any symptoms of sympathetic disease. A certain number of cases, as he points out, have been published of sympathetic mischief coming on after enucleation of the first eye. Their sum, however, is infinitesimal as compared with the enormous number of enucleations practised. Symptoms, as a rule, make their appearance four to twenty days after the operation. Shaw's case (*Trans. Ophthal. Society*, Vol. XX, 1900, p. 239) of sympathetic ophthalmitis on the forty-seventh day after enucleation is said by Dianoux to mark the extreme limit yet recorded.* The author therefore claims that seven weeks may be accepted as the outside limit of the period of incubation of sympathetic disease. It is interesting to note that Wecker, Galezowski, Dor. Badal. de Lapersonne, Truc, and Valude, to whom a circular letter was addressed by Dianoux, have never observed sympathetic ophthalmitis follow the prophylactic removal of an injured eye.

A. D.

Manolesco.—Upon the action of hot water applied directly to the cornea in corneal infiltrations. (**Sur l'action de l'eau chaude appliquée directement sur la cornée dans les infiltrations cornéennes.**) *Annales d'oculistique*, T. CXXXI, 1904, p. 201.

In deep infiltrations of the cornea, and particularly in parenchymatous keratitis, Manolesco, of Bucarest, praises treatment by hot water. The method adopted is as follows: after cocaine has been dropped into the eye, the lids are separated with the fingers, so as to expose the cornea. Water

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*Another complicated case has been reported by Stephenson (*Trans. Ophthal.* [illegible], Vol. XXI, 1901, p. [illegible]) where sympathetic disease followed fifty-four days after enucleation. Complete recovery.

having a temperature of from 70° to 80° is then dropped from a pipette over the cornea for a period ranging from five to ten minutes. The little operation is repeated twice a day. The immediate result is an irritation of the eye lasting two to five hours. H. DE V.

Cantonnet. A.—The treatment of Glaucoma by osmotic substances. (Essai de traitement du glaucome par les substances osmotiques.) *Archives d'ophtalmologie*, janvier, 1904.

Zentmayer, William.—A clinical note on the treatment of Panophthalmitis by the method of Van Milligen. *Ophthalmic Record*, March, 1903.

Van Milligen, it will be remembered, treated several cases of panophthalmitis successfully with the galvano-cautery. He first cauterised the edges of the wound, and afterwards introduced the wire loop into the vitreous for 4 mm. to 8 mm., and moved it about for a few seconds. Roscher, Van Baumler, Eversbusch, and others have reported recoveries from post-operative infection by the method. Zentmayer gives details of child treated somewhat on Van Milligen's lines. A septic injury to one eye led to panophthalmitis. The wound was cauterised, pus evacuated from the anterior chamber by Saemisch's section, the lens removed, and the eyeball packed with iodoform. At the end of four weeks the patient left the hospital, with an eyeball which had kept its normal shape, while perception of light was present.

Lagrange, Félix.—Upon resection of the Sympathetic in Glaucoma. (De la Résection du Sympathique dans le Glaucome.) *Annales d'oculistique*, T. CXXIX, 1903, p. 439.

Lagrange has twice excised the superior cervical ganglion of the sympathetic by Jonnesco's method for the relief of glaucoma. The first patient was a female, aged 62 years, who suffered from acute glaucoma, following an attack of broncho-pneumonia. The immediate results of the operation were diminution of the palpebral aperture, contraction of the pupil, and lowering of the intra-ocular tension. The remote results, however, were not encouraging. The second patient, a child of 3 years, was affected with glaucoma of one eye, which had come on at the age of eighteen months during recovery from measles and broncho-pneumonia. After a preliminary fall of the intra-ocular tension, the latter rose within two weeks to what it was prior to the operation.

Lagrange admits that sympathectomy yielded no appreciable results in his two cases with the exception of a reduction in the size of the palpebral aperture. The fall in intra-ocular tension, as already stated, was temporary only. Since the symptoms of glaucoma depend wholly upon the raised tension, and since the operation influences tension in a merely temporary manner, Lagrange concludes that sympathectomy is not of service in glaucoma. S. S.

Hotz, F. C.—The proper division and fixation of the skin flaps in the operation for Cicatricial Ectropium to prevent re-eversion. *Archives of Ophthalmology*, May, 1903.

Asmus, Edward.—On the technic of the disinfection of eye instruments by alcoholic soap solutions. (Zur Tecknik der Seifenspiritusdesinfektion augenärztlicher Instrumente.) *Zeitschr. f. Augenhl.*, März, 1904.

The author recommends a solution of soap in alcohol (*spiritus saponatus**) as an efficient disinfecting solution for eye instruments. It has the advantage that the instruments can be kept permanently in the solution, and that the edges of fine cutting instruments are in no way impaired by such treatment. He recommends square glass dishes with flat covers, made air-tight by a little vaseline, as the most useful for this purpose, and as rests he uses strips of aluminium properly cut out. When about to use an instrument, it is removed from this solution, the handle dried with a swab and the blade washed in a soda solution, and, after use, cleaned with cold water, and replaced in the soap solution.

A. LEVY.

Schiele, A.—Upon the influence of the alcohol bandage in panophthalmitis. (Ueber den Einfluss des Alkoholverbandes bei der Panophthalmie.) *Woch. f. Therapie u. Hygiene des Auges*, 12 Mai, 1904.

In the treatment of panophthalmitis, Schiele, following the example of Salzwedel (*Deutsche militärische Zeitschrift*, 1894, Heft 4) applies an alcohol bandage in the following way. After thorough cleansing of the parts with ether, a moderately thick wad of absorbent wool is soaked in absolute or 96 per cent. alcohol, and applied over the lids, brow, cheek, and temple of the affected side. The wool is covered with strips or a fenestrated sheet of some impermeable material, and the dressing kept in place by a few turns of bandage. The dressing is changed twice a day.

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* In answer to enquiries, Mr. W. Martindale informs us that the *Spiritus Saponatus* of the Prussian Pharmacopœia, the preparation to which Dr. Asmus alludes, is made by saponifying olive oil 6 with liquor potassæ 7, and alcohol 7½ in a stoppered vessel by frequent agitation. Add then alcohol 22½ and water 17; filter. EDITOR.

Fisher, William A.—One hundred and fifty operations. *Ophthalmic Record*, January, 1903.

Schiele, A.—On the treatment of the so-called lead incrustation of the corneal tissue: (Zur Therapie der sog. Bleiinkrustation des Hornhautgewebes.) *Woch. f. Therapie u. Hygiene des Auges*, 19 Mai, 1904.

Schiele recommends nascent iodine, obtained by the interaction of 3% potassium iodide and 3%–5% iodine, in the treatment of recent lead incrustations of the cornea.

Krückmann, E. – On the utility of Kataphoresis for the local treatment of syphilitic Eye diseases. (Ueber die Verwendbarkeit der Kataphorese zu Lokalbehandlung luetischer Augenerkrankungen.) *Zeitschr. f. Augen.*, Januar, 1904.

The author made a long series of experiments with a view of determining the possibility of introducing into the interior of the eye, by means of the electric current, medicinal substances in sufficient quantity to produce local effects. He found that appreciable quantities of mercury could be introduced into the eye of a rabbit by these means; and that mercury in the form of sublamin 1 in 3,000, or the succinamide of mercury, 1 in 4,000, to be the most applicable, producing least disturbance. For the human eye he has constructed a special form of electrode and a special rheostat, giving great constancy of current, and advises the employment of currents not exceeding 1½ milliampères in strength, in daily sittings of 20 to 40 minutes, using the solutions above mentioned. He states the indications for this treatment to be: (1) rapidly growing gummata or the tubercles of early syphilis; (2) chronic or recurring syphilitic inflammations or gummata which do not yield to general treatment. He recounts several cases which seem to have been benefited by the treatment. In all these cases, however, he advises that general treatment employed at the same time. A. Levy.

Wood, Casey.—Subconjunctival injections of sodic chloride in detachment of the retina. *Ophthalmic Record*, December, 1903.

Wood summarizes the experiences of Tarducci, Mellinger, Dor, de Wecker, and Schiess-Gemuseus with regard to the treatment of detached retina by the sub-conjunctival injection of a solution of sodium chloride in strengths varying from 2% to 30%, and concludes that the method in question yields no better results than those obtained by the more usual modes of treatment.

Fox, L. Webster.—Peritomy or Peridectomy? *Annals of Ophthalmology*, October, 1903.

Following the example of Hewetson, Teale, and Snell, Webster Fox enters a plea for the performance of peritomy or peridectomy in cases of corneæ vascular from causes such as trachoma, interstitial keratitis, and ulcers. The operation is also useful in some cases of iritis and kerato-iritis, when associated with vascularity of the cornea. The details of the operation are as under: a strip of conjunctiva, 2 mm. to 5mm. in width, surrounding the cornea is excised, and then the vessels at the corneal limbus are scarified by means of a Beer's knife. The operation is performed under the influence of cocaine and adrenaline. The author concludes a brief but interesting article with the following words: "In 108 operations of this character performed by me within the last three years the results have been most gratifying. In all of these cases the progress of the affection was stayed. The excised portion of the conjunctiva was replaced by white scar tissue, and the transparency of the cornea was wonderfully improved. The operation has no substitute and deserves proper recognition by ophthalmic surgeons, as its results are superior to other forms of treatment in the conditions mentioned and it is productive of no ill effects."

Nicati, W.—Upon partial ablation of the eyeball by the operation of subenucleation. (De l'ablation partielle du globe oculaire par le procédé de la subénucléation.) *Archives d'ophtalmologie*, T. XXIII (1903), p. 347.

Nicati's operation of "subenucleation" (intended to replace ordinary enucleation under some circumstances) is performed in the following way: a button-hole is cut over the insertion of the internal rectus, which is seized with forceps and divided nearly level with the sclera, being held in place by means of a catgut suture passed through the tendon and the overlying conjunctiva. The capsule is opened above and below the first incision, and the optic nerve divided in the usual way. The posterior pole of the eye is then harpooned with a sharp hook, drawn forwards, and separated from its attachments to the oblique muscles. The posterior part of the eyeball, as far as the insertion of the recti muscles, is next taken away, and the remaining part of the globe is carefully emptied of its contents. Lastly, the internal rectus muscle is sutured, and the conjunctival incision closed. The operation leaves an excellent stump, and cure is stated to be more rapid (a thing difficult to understand) than after simple enucleation.

REVIEWS.

Manhattan Eye and Ear Hospital Reports. No. III., March, 1904. Edited by JONATHAN WRIGHT, M.D., 103, Park Avenue, New York.

Of the thirteen communications included in these *Reports* four deal with the eye, *viz.* :—(1) Metastatic carcinoma of the choroid,* by E. L. Oatman; (2) Insufficiency of divergence, by H. W. Wootton; (3) Surgical treatment of entropion, by M. L. Foster; and (4) an interesting account† by Hurd and Holden, where sudden blindness of one eye followed the injection of paraffin for the relief of a "saddle nose." It may be noted that every communication included in the *Reports* has been published previously in other periodicals.

The Extra Pharmacopœia of Martindale and Westcott.—Revised by W. HARRISON MARTINDALE, PH.D., F.C.S., and W. WYNN WESTCOTT, M.B. Lond., D.P.H. Eleventh Edition, 1904. London: H. K. LEWIS, 136, Gower Street, W.C. Price 9s. 6d. net.

The eleventh edition of this wonderful little book (indispensible to every practitioner, ophthalmic and otherwise) has just been issued from the press. Its information is thoroughly up-to-date, as will be obvious when it is stated that such new and comparatively little-known remedies as eumydrin, cuprocitrol, hermophenyl, atropine methylbromate, and optocine (spelled "opticine" by the way) are mentioned. A section on "Radiology" gives a very practical account of the Roentgen rays, high frequency current, Finsen lamp, and radium in their applications to everyday therapeutics. A final good point is that the size and weight of the eleventh edition, although it contains 112 more pages than its immediate forerunner, have been decreased.

Subjective Sensations of Sight and Sound, Abiotrophy, and other Lectures. By SIR W. R. GOWERS, M.D., F.R.C.P., F.R.S. London: J. & A. CHURCHILL, 1904. Price 6s. nett.

We can only refer particularly to such of these lectures as come within the radius of the OPHTHALMOSCOPE, but all alike will be found teeming with interest for the general reader.

"Subjective Visual Sensations" is the title of a re-written and re-arranged edition of the author's Bowman Lecture for

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* See OPHTHALMOSCOPE, June, 1904.

† See OPHTHALMOSCOPE, September, 1903.

1895. It deals chiefly with the curious and mysterious aurae of migraine. The illustrations and examples given are of unique value, as depicting in facsimile the visual hallucinations experienced by sufferers from this distressing complaint. One of these observers was a medical man, another a well-known artist, the third was a mechanical engineer and draughtsman who recorded his experiences in an illiterate but interesting manuscript book, since presented by Sir W. Gowers to the Ophthalmological Society. It contains many quaint and crude illustrations of coloured streamers like the zig-zag mouldings of Norman arches, which appeared to the patient to surround his head, or his plate at dinner, or to be projected from one or both his eyes under a variety of circumstances. He regarded the spectra as objective things, and appears to have derived much consolation in his infirmity from the interest which it excited in medical circles. In his case the phenomena were not followed by headache. The accuracy of the varieties of spectra described and drawn by Dr. Airy and Mr. B., the artist, will be recognized by many sufferers from migraine. Such hallucinations on the "expanding-angled, or fortification spectrum, in which a small bright-coloured angled sphere suddenly appears on one side of the combined fields, rapidly enlarges, becomes oval and breaks its outline near the fixing point, and finally ends in a whirling centre of light from which sprays of light seem flying off." Then all is over and the headache comes on. The colours observed were red, dark blue and yellow, but never green. Loss of sight was always within the angled oval, and never outside.

These spectra, described as progressive, are concentric in character, but others have a radial course from the centre towards the periphery. Central spectra appear at the fixing point, as a small round or oval spot of darkness, which enlarges rapidly upwards and downwards and turns slowly, laterally, until the dark area of loss of sight occupies the whole medial third of the combined fields as a simple loss of sight. Vision only remains on the outer side of each field. Sometimes the area of darkness is bounded by a bright zig-zag discharge. Other forms of spectra described are the pericentral, which seem never developed at the fixing point itself, and an interesting form of mobile stellate spectrum, which affected a woman who ultimately lost her headache but became epileptic.

Although hemianopia is often complained of by subjects of migraine, Sir W. Gowers has never been able to satisfy himself of the occurrence of complete loss of vision up to the middle line, such as results from organic disease. Speaking of the apparent recession and approximation of spectra towards or from the subject, with micropsia and macropsia, the author thinks apparent approximation is more common than recession : that "a spherical light for instance, seems to get nearer and larger until it overwhelms the patient as consciousness vanishes," in epilepsy. This approximation is described only in the case of simple visual sensations, not in those of elaborate character.

Sir William Gowers does not mention the apparent analogy between these approximating spectra and those which in children produce Night Terrors. Charles Dickens says that his frightful dreams as a child were of an "interminable sort of rope-making, the strands and filaments of which when spun home close to the eyes occasioned screaming." Such elaborate hallucinations as part of Night Terrors are extremely common in children, particularly in those who afterwards become subjects of migraine.

In explanation of many of the interesting phenomena which he describes, the author postulates the existence of lower centres in the occipital lobes (half vision centres) from which impulses proceed to higher centres situated in the region of the angular gyri. A lesion of the latter on one side gives rise to crossed amblyopia. In the central region of visual fields vision can be subserved by either hemisphere alone, in the periphery of the fields by neither alone. Impulses from the periphery of each retina ultimately reach the higher centre of one side through that of the other side, whilst those from the central region pass directly from the half vision centre to each higher centre. He concludes that in migraine the phenomena depend on functional fusion of centres in both hemispheres, that the higher, rather than the lower, half vision centres are involved.

We regret that the exigencies of space prevent our saying more of the remaining lectures in this work than that they will amply repay a more than casual perusal.

LEONARD G. GUTHRIE.

NOTES AND ECHOES.

Bowman Lecture.

OWING to the illness of Dr. F. W. Mott, who is suffering from blood-poisoning contracted during the making of an autopsy, the Bowman Lecture, fixed for June 30th, has been postponed indefinitely.

* * * *

The Ophthalmoscope.

DR. URIBE-TRONCOSO, editor of the *Anales de Oftalmologia*, has joined the staff of the OPHTHALMOSCOPE as correspondent for Mexico.

* * * *

Appointments.

CONGRATULATIONS to Mr. John Tweedy, who has had conferred upon him the title of Emeritus Professor of Ophthalmic Medicine and Surgery by the Senate of University College, London. Mr. Percy Flemming has been appointed Professor of Ophthalmology and Ophthalmic Surgeon to University College, and Mr. J. H. Parsons, Assistant Ophthalmic Surgeon to the same institution.

* * * *

New Ophthalmological Societies.

WE are glad to welcome the latest-born of the learned societies of the scientific world in the person of the Hungarian Ophthalmological Society which, at a recent meeting at Buda-Pest, it was decided to found on the lines of the Heidelberg and French societies. The committee appointed to carry out the necessary arrangements includes such well-known names as those of Csapodi, Goldzieher, Hoor, Schulek, and Szili. Under the presidency of Dr. Caralt, another ophthalmological society has recently been formed in Barcelona.

* * * *

Ophthalmic Hospital, Jerusalem.

A SOCIETY entertainment, to consist of *tableaux vivants*, dramatic and musical performances, is to be given on July 5th at His Majesty's Theatre, London (generously lent for the occasion by Mr. Tree) in aid of the British Ophthalmic Hospital at Jerusalem. The entertainment is organised by the Grand Priory of the Order of St. John of Jerusalem in England. The name of Princess Christian heads the list of an influential committee. The tableaux will illustrate eight scenes in the history of the Order. Mme. Bernhardt, Mme. Réjane, Signor Ancona, and Herr Kubelik are amongst the performers in what promises to be an entertainment unique of its kind. The performance is under the immediate patronage of their Majesties the King and Queen.

* * * *

International Congress of Ophthalmology.

THOSE of our readers who intend to visit Lucerne on the occasion of the Tenth Congress of Ophthalmology, 13th—17th September, 1904, should bear in mind that tourist season tickets, available on most of the Swiss railways, are issued for periods of a fortnight or a month. The rates are:—15 days, 1st class, 70 fr.; 2nd class, 50 fr.; 3rd class, 35 fr. They can be obtained at the chief Swiss stations, at Paris (*Gares de Lyon et de l'Est*), and in London at Victoria or London Bridge Station. An unmounted photograph of the applicant is required.

* * * *

International Congress of Medicine.

THE holding of International Congresses is a sign of the times in modern scientific progress. As most of our readers know, Portugal is to be the scene of the next or Fifteenth Congress of Medicine, which will take place at Lisbon in April, 1906. The work is to be distributed in seventeen sections, of which that of ophthalmology has the following *personelle*: - President, Prof. Sousa Refoios; Vice-Presidents, MM. Meyer and Vianna; Secretary, Prof. H. de Sousa. All official reports will be printed prior to the Congress, as well as the conclusions of ordinary communications, which usually contain the pith of the real scientific work. The official languages will be English, French, and German. Portugese, curiously enough, is not included, a piece of self-abnegation that reflects a good deal of credit upon the executive of the Congress.

* * * *

Ophthalmological Society.

IN consequence of the holding of the Annual Dinner of the Fellows of the Royal College of Surgeons of England on Thursday, July 7th, 1904, the next ordinary meeting of the Ophthalmological Society, originally fixed for that date, will now be held on the following day. These communications are announced:—1. Mr. George Coats.—Lantern demonstration on cases of thrombosis of the central vein. 2. Dr. Freeland Fergus.—An interesting case of malignant disease of the conjunctiva. At the annual general meeting, which will follow the ordinary meeting, several changes will be proposed in the governing body of the Society. Two new Vice-Presidents, Dr. F. W. Mott and Mr. Robert W. Doyne, will be proposed in the place of Mr. C. Higgens and Dr. A. H. Benson, who retire by rotation. The new members of Council include Mr. S. J. Taylor, Mr. E. E. Maddox, Dr. F. E. Batten, and Mr. Sydney Stephenson. Mr. C. Devereux Marshall will replace Mr. Stephenson as Surgical Secretary of the Society.

* * * *

Sight-Testing Examinations.

OTHER important business will be brought up at the General Meeting, notably a Report by the Council upon the inclusion of sight-testing in the examinations held by the Spectacle Makers' Company. The Report in its main lines follows closely the letter sent by the Royal College of Surgeons to the Solicitors of the Company. It enumerates the dangers likely to attend refraction work as carried out by non-medical persons. The general tenour of this document, while emphatic, is marked by extreme moderation, and leaves little to be desired. At the same time we venture to express a sincere hope that the matter will not be allowed to drop with the mere academic adoption by the meeting of the Council's Report. Steps should assuredly be taken to inform the profession, and through them the public, of the views of so authoritative and representative a body as the Ophthalmological Society of the United Kingdom.

* * * *

Ophthalmia at Staveley.

An epidemic of acute contagious ophthalmia has invaded the Derbyshire mining village of Staveley. According to the latest reports, nearly two hundred cases have occurred up to date. The disease began in the National Schools, but has since spread to grown-up people in contact with the children. To judge from all accounts, the malady is acute catarrhal conjunctivitis, of a specially infective nature. So serious have matters become that Mr. Simeon Snell, of Sheffield, has been called in to report upon the disease, and to advise what steps should be taken by the Local Authorities. Dr. H. Peck, the Medical Officer of Health for the district, thinks the epidemic is now subsiding. Whatever may be the case abroad, it is an extremely rare occurrence in this country for acute ophthalmia to attack the population of a village in this way. The outbreak recalls that which occurred so long ago as 1701 at Castle-Town-Delvin, in the county of Westmeath, "by which vast numbers lost their eyesight," or the outbreak that took place at Newbury, Berkshire, in the year 1778. A reference to the latter epidemic will be found by those interested on page 17 of Ware's curious *Remarks on the Ophthalmy, Psorophthalmy, and Purulent Eye*, published in 1787.

* * * *

Nettleship Prize Award.

The first medal awarded under the terms of the Nettleship Trust Deed has been to Mr. Priestley Smith, Professor of Ophthalmology in the University of Birmingham, for his important contributions to ophthalmic medicine and surgery, and especially to those relating to the nature and treatment of glaucoma.

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ORIGINAL COMMUNICATION.

A FATAL CASE OF DIPHTHERIA OF THE CONJUNCTIVA.

By

SYDNEY STEPHENSON.

Rebecca M——, aged 9 months, first attended the North-Eastern Hospital for Children as an outpatient under Dr. George Carpenter on October 22nd, 1903. She was then suffering from diarrhœa and vomiting, of one week's duration. The treatment included bismuth, peptonised food, and small doses of mercury with chalk. The baby continued to attend Dr. Carpenter's out-patients until December 10th.

After that she was not seen again until January 7th, 1904, when she was brought on account of her eyes, which were red and running with mucus. A lotion and an ointment of boric acid were prescribed. The baby was in a wasted and neglected state. The mother admitted that Rebecca was insured, the premium being one penny a week, but she did not know what amount would be received in the event of the infant's death. On January 11th, the eyelids were red and so much distended that when they were drawn apart for purposes of examination, thin, watery pus spurted out for some distance. After the eyes had been cleansed, what are described in the notes as "thin flakes of inspissated pus" separated from the palpebral conjunctiva. Protargol (50 %) was applied directly to the conjunctiva of the eyelids, and the other treatment was continued. On the following day a note was made to the effect that "there was some bleeding when the membrane was removed" from the eyelids. Upon January 13th the condition of the eyes was such that the baby was admitted to the Hospital, under the care of my colleague, Dr. W. A. Wills, and placed in an isolation ward. Upon reception, the child was pale and collapsed; temperature 96.4° F.; pulse feeble; and respirations slow. The eyelids were swollen and "stuck down" with discharge; membrane in both eyes. There was a discharge from the nose, and sores were present behind the ears and on both buttocks "apparently," so the notes run, "as the result of neglect." The motions were frequent, the stools being green and including undigested food. At 6 o'clock p.m. on the day of admission the temperature was 102° F.

On the following day (January 14th), I saw the child for the first time. I found a pallid, wasted, "snuffling" infant, affected with a degree of inspiratory dyspnœa. She was exceedingly ill. Sordes around the lips. Temperature stood at 101°F. There was no membrane in the fauces, but at the tip of her tongue was a curious-looking circular ulceration, coated with a thin, membranous deposit. A thickish muco-pus ran from the nose, but no membrane could be seen in the nostrils. There were eczematous sores behind the ears, and ulceration was present around the anus and vulva. There was definite cutaneous diphtheria of the lower eyelid and inner canthus of the left eye. The upper eyelids were hot, markedly swollen, and of a violaceous colour, and owing to their board-like consistence, could not be fully everted. The palpebral conjunctiva was covered with an ashen-grey membrane, which could be detached only with very considerable difficulty, leaving exposed a bloodless and waxy-looking (lardaceous) conjunctiva. No petechial ecchymoses were present. There was some chemosis of the ocular conjunctiva. The corneæ were, however, clear. The preauricular and the submental glands were readily palpable.

A diagnosis was made of diphtheria of the conjunctiva in a child the subject of hereditary syphilis, and an opinion was expressed that the patient would not survive long.

However, local treatment was kept up, stimulants were given, and 6,000 units of antitoxin were injected beneath the skin of the flanks.

The baby became collapsed and died (apparently from cardiac failure) at 4.30 a.m. on January 15th—that is to say, eight days after the commencement of the conjunctival disorder and eleven hours after I first saw the case. It is worth noting that, a couple of hours before death, the temperature was as low as 98°F. A *post-mortem* examination was not made.

Bacteriology.—A morsel of membrane was removed (during life) with forceps from the inner surface of the left upper eyelid. With this fragment serum, blood-agar, and agar-agar tubes were inoculated. The membrane, moreover, was smeared over the surface of several cover-slips. The cover-glass preparations were stained with carbol methylene blue, Gram and eosine, and (according to Neisser's method) with methylene blue and Bismark brown. They showed, when examined under the microscope, many cocci and diplococci, a few streptococcus chains of medium length, numerous fine, short bacilli, and long bacilli, often segmented and sometimes clubbed. All these micro-organisms stained well with Gram, except the fine, short bacilli which were quickly decolourised by the alcohol used in the process. The long bacilli could not be distinguished morphologically or by their staining reactions from the Klebs-Löffler bacillus. Thus, they manifested polychromatic staining with methylene and thionine blue, and yielded a positive reaction to Neisser's stain. Their arrangement in bundles was highly characteristic. They were so numerous that a field could scarcely be examined under the microscope without finding some of them. From the blood-serum tube, after twenty-four hours' incubation at 37.5° C., there were obtained colonies of (1) Klebs-Löffler bacilli ; (2) staphylococcus pyogenes albus ; (3) streptococcus longus ; and (4) Koch-Weeks' bacillus. The Klebs-Löffler bacillus rendered bouillon acid, and killed a guinea-pig in forty-two hours. On the tube of the blood-agar the growth of the Koch-Weeks' bacillus was relatively abundant.

Remarks.—As I have pointed out elsewhere (*Trans. Ophthalmological Society*, Vol. XXII., 1902), diphtheria of the conjunctiva is far from rare in London. Thus, during a period of five consecutive years amongst 3,412 eye patients seen at two hospitals for children, there were 43 instances of the disease, or a percentage of 1.26. This number, it should be carefully noted, included all kinds of inflammations of the conjunctiva associated with the Klebs-Löffler bacillus, the presence or absence of which formed the touchstone of a given case being diphtheritic or otherwise. Nearly two-thirds of the cases were met with in children under three years of age. The stress of conjunctival diphtheria during the period in question fell precisely upon those months when ordinary diphtheria was most rife in the metropolis. Of my entire series of cases three only belonged to the severe clinical type described in the text-books as "diphtherial conjunctivitis." From the purely clinical standpoint, there were "mild" 21, "medium" 19, and, as I have said, "severe" 3 cases.

As to the symptomatology of the cases as a whole, 40 % of the children were bodily ill, as shown by pallor, anorexia, languor, or wasting. The thermometer, however, generally revealed a slight reduction rather than an actual elevation of the temperature. In some of the cases albumen was found in the urine, and in others the knee-jerks could not be elicited. Diphtheria of the fauces or nose preceded the conjunctival inflammation once, was associated with it twice, and followed it once. Diphtheria of the skin (eyelids, scalp, or face) was present in seven children. In the more severe forms the preauricular and angular glands corresponding to the inflamed eye were more or less swollen, but in slight forms of the disease that feature was more often absent than present. For example, the glands were enlarged in 35 % of the "mild" cases, in 55 % of the "moderate" cases, and in 100 % of the "severe" cases. The malady was unilateral in 32 patients—that is to say, in about three-quarters of the whole number. The cornea was merely hazy or actually ulcerated in 30.23 % of the total number of cases. The Klebs-Löffler bacillus was found in every case included in the series, the bacteriological diagnosis being confirmed in six instances by inoculation of animals. The infection was "pure" in 13.95 % and "mixed" in no fewer than 86.04 %. No connection could be traced between the associated micro-organisms, on the one hand, and the severity of the diphtheritic process, on the other. I concluded my communication by claiming that the most trivial "croupous" and the gravest "diphtherial" were linked by a whole series of cases having intermediate grades of severity; that a common contagium in the shape of the Klebs-Löffler bacillus lay at the root of both maladies; and, finally, that both forms were definitely influenced by antitoxin.

Reverting for a moment to the case described in the present communication, in the light of the bacteriological findings, it is tolerably safe to assume that the original inflammation of the conjunctiva, noted on January 7th, 1904, belonged to the common acute "catarrhal" type, and was caused by the Koch-Weeks' bacillus. The diphtheritic infection was almost certainly a superadded pheuomenon, brought about between

January 7th and January 11th. Two factors probably aided the reception and development of the specific virus of diphtheria, namely, (1) the bad general condition of the baby, and (2) the lowering of the normal resistance of the conjunctiva by the preceding "catarrhal" inflammation. With regard to the last point, something of the kind was observed in five of the 43 patients forming the basis of my previously-mentioned communication. In one of these a child had been treated for relapsing eczematous conjunctivitis, and ultimately membrane was found upon the lids in association with a diffused phlyctenular condition of the limbus conjunctivæ. The staphylococcus pyogenes albus (? micrococcus epidermidis albus) is so common an organism in the conjunctival sac, healthy or otherwise, that we are probably justified in disregarding its existence in the present case. The presence of the streptococcus longus, however, is more interesting, since it is believed by some observers to be capable by itself of causing a grave form of membranous conjunctivitis, and by others to render more severe the course of an ordinary case of diphtheritic ophthalmia.

Fatal cases of conjunctival diphtheria, although rare, are by no means unknown in England. Such cases have been recently reported by Flemming, Bullar, and myself. Flemming's case (*Lancet*, October 2nd, 1897) occurred in an ill-nourished infant, aged four months, affected with diphtheria of one eye. There was a thick discharge from the baby's nose. The patient died rather suddenly three days after coming under notice. Klebs-Löffler bacilli were found in cultures taken immediately after the child's admission to hospital. Bullar's case (*Trans. Ophthalmological Society*, Vol. XXI, p. 9) was in a baby of ten days, who developed a membranous conjunctivitis of one eye, the diphtheritic nature of which was apparently not suspected. A few days later the temperature rose to 100.4°F., membrane was found in the nose and fauces, and the baby died in convulsions fifteen days after the beginning of the illness. During the baby's illness another child in the same house developed a white patch in the throat and a temperature of 104°F. It is also significant that three or four months before, the children in the house had been affected with measles, followed by chronic nasal discharge. No bacteriological investigation was made in Bullar's case, but clinically, at all events, there can be no doubt of the diagnosis. My own case (*loco citato*) was in a girl, aged sixteen months, who was admitted to the North-Eastern Hospital with severe diphtheria of the conjunctiva of one eye. The condition rapidly became worse; membrane appeared on the tonsils, soft palate, and uvula;

and the child died six days after admission to the hospital and eleven days after the commencement of the disease. Antitoxin was injected two days before death—*i.e.*, probably too late to be of much service in stemming the disease. In cultures were found (1) Klebs-Löffler bacilli, and (2) streptococci. The former were fatal to a guinea-pig in two days.

In conclusion, it is worth noting that the present case appears to have died from toxæmia induced by conjunctival diphtheria alone, inasmuch as no membrane could be found in the nose, mouth, or fauces. The point is of some little importance, since, so far as I am aware, every other fatal case reported has suffered from a complicating diphtheria of the nose or fauces. The muco-purulent secretion, observed to run from my patient's nostrils, was the only thing that suggested the co-existence of a nasal diphtheria.

CLINICAL, PATHOLOGICAL, AND THERAPEUTICAL MEMORANDA.

INVOLVEMENT OF THE EYES IN A CASE OF EPIDERMOLYSIS BULLOSA (*a*).

By

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Although I have met with several examples of the uncommon skin disease known as Epidermolysis Bullosa (congenital traumatic pemphigus), yet I have never seen the eyes affected except in the case described below, nor do I know of any similar on record. The present case therefore appears to be unique in this respect.

The skin disease is rare. It sometimes runs in families; in one instance on record as many as 24 out of 47 members of a family exhibited the disease (18 males and 6 females) (*b*). I have myself seen a female infant of 6 weeks with the disease, whose sister, mother, and grandfather were or had been affected in a similar way (*c*). Hence the qualification "hereditaria" tacked on to the already somewhat formidable name "Epidermolysis bullosa." The malady is characterized by bullæ, the contents of

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(a) Case exhibited at the Dermatological Society of London, May 11th, 1904, and some notes published in the *Journal of Dermatology*, June, 1904.

(b) Colombini: *Monatsh. f. prakt. Derm.* Mai, 1900. p. 457; also an abstract by me in *Brit. Jour. of Derm.* XII. 1900, p. 333.

(c) Pernet: *Brit. Jour. of Derm.* XIV. 1902, p. 172.

which are often of a hæmorrhagic nature, especially upon the hands and feet. The nails are generally more or less affected or are even actually absent. The bullæ may occur upon the mucous membranes, as for instance, that of the mouth and lips, and the following case goes to prove that the front of the eye is not exempt. Nothing is known as to the essential nature of the disease. Treatment is disappointing, to say the least of it. In the mother of the infant I have alluded to, the disease came to a full stop spontaneously after her first confinement.

Briefly stated, the facts of the case are as under :—

A boy, aged 15 years, came under observation in the Skin Department at University College Hospital, London, on April 5th, 1904, suffering from the above condition of the skin. The disease, which dated from birth, manifested itself by an eruption of bullæ containing clear or hæmorrhagic fluid, on the hands and feet, elbows and knees, and the front of the legs. The bullæ resulted not only from injuries of a more or less trivial nature, but also occurred spontaneously. The nails, both of the fingers and toes, were absent. The teeth, although somewhat irregular, were good. The eruption involved the mucous membrane of the lips. As regards the eyes, Mr. Percy Flemming, ophthalmic surgeon to the Hospital, was kind enough to furnish me with the following report :—" Right eye.—Cornea clear in centre, periphery hazy. The haze is superficial beneath the epithelium. Vessels run into the cornea a short way from the limbus. Left eye.—Whole cornea hazy, but centre less so than periphery. Three large superficial vessels run over to the cornea, and can be easily moved over the latter. These vessels are not derived from the anterior conjunctival vessels. The superficial parts of the cornea, with these vessels, slide over the underlying deeper layers."

It will thus be seen from Mr. Flemming's report that the condition of the cornea was analogous to that of the skin, inasmuch as the superficial or conjunctival layer of that structure was separated, bleb-like, from the deeper substantia propria. The eyes, it may be noted, were stated to have become affected three months after birth.

Another point of interest about the case was the occurrence of warty horny excrescences on the palms, which, according to the patient, had resulted from friction. There was hyperidrosis. On the knees and elbows were atrophic areas, representing the site of former bullæ, and reminiscent of what is observed in leprosy. When these areas were pinched up between the fingers, an appearance something like ichthyosis was produced. Finally, there was no other case of the kind in the patient's family.

MICROPHTHALMOS WITH LARGE ORBITAL CYSTS.

By

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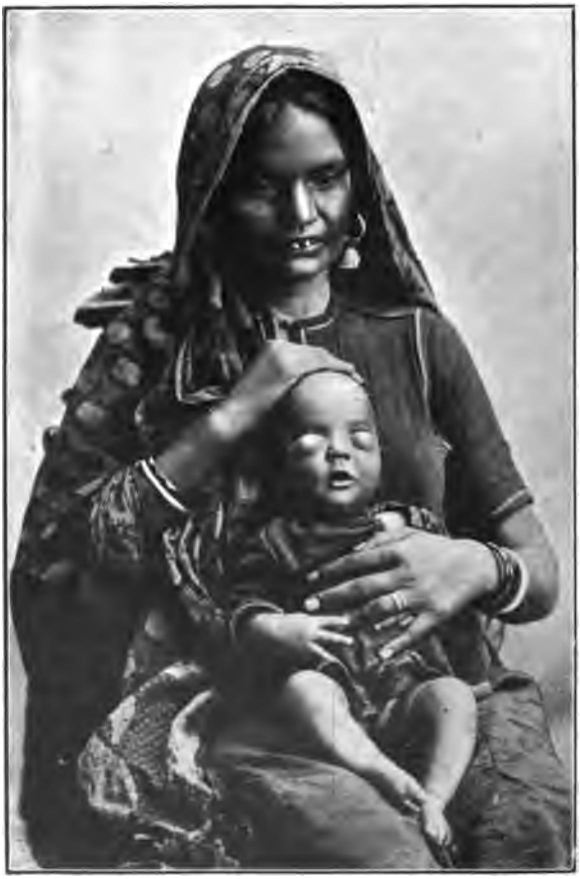
The subject of the malformation was a Hindoo infant, aged four months. The eyelids and the conjunctival sacs were rudimentary. No vestige of an eyeball could be detected in the diminutive sockets. Immediately below each lower conjunctival sac (*see* Fig.) lay a round, prominent, purplish swelling, covered by thin skin. The swelling was soft and pulpy to the touch. The outline of the lower orbital arch could be distinctly felt low down in the cheek below the orbital cyst.



THE PLASTOGRAPHIC APPARATUS AS A TEST FOR BINOCULAR VISION.

By

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Of recent years there have been invented many excellent tests to ascertain the presence or absence of binocular vision. These are too numerous to be enumerated here, but amongst the best are the apparatus of Hering, the various forms of stereoscope, as Landolt's, and colour tests, such as Worth's. His amblyoscope also I have found extremely useful in testing binocular vision. In my own experience, one of the best tests is afforded by the plastographical views. As is well known, these are pictures so arranged in colour that when viewed through a simple apparatus having before the right eye a piece of red glass and before the left a piece of blue glass stereoscopic vision is at once obtained by a person with two good eyes, provided he has binocular fixation. If he has not, he will see the object red or blue according to the eye used. So far the test is much the same as the excellent one devised by Worth on the basis of Snellen's test for the detection of simulated colour-blindness.

The plastographical apparatus has, however, an advantage over all other tests. If a picture be placed flat on the table and looked at through the plastograph and if the observer moves from side to side while looking at it, then the objects in the front of the picture will be seen to move in the same direction as that in which the observer moves. If no apparent movement takes place, binocular vision is not present.

This test can be applied even in the case of a young child and when dealing with a patient of defective intelligence. In using it I simply ascertain the presence or absence of the movement. I also find this apparatus of use in training the eyes after operations for squint or for heterophoria in suitable cases.

CURRENT LITERATURE.

NOTE.—Communications of which the titles only are given either contain nothing new or else do not lend themselves to abstract.

I.—ANATOMY, PHYSIOLOGY, PATHOLOGY, AND BACTERIOLOGY.

Ahlstrom, Gustav.—Upon hæmorrhagic Retinitis. (De la Rétinite hémorrhagique.) *Annales d'oculistique*, T. CXXIX (1903), p. 150.

The sight of one eye in a man, aged 57 years, had failed somewhat suddenly, so that it was equal only to counting fingers at four mètres. Ahlstrom found the disc hyperæmic, the retinal veins dark and tortuous, the larger retinal arteries of almost normal size, and many retinal hæmorrhages, especially round the optic papilla. There were, furthermore, a certain number of small, white spots in the macular region of the fundus. The urine contained a trace of sugar. General examination negative. A diagnosis of thrombosis of the central vein was made, and the patient treated with calcium iodide. Some five months later, the eye became painful and blind, with raised tension. Pilocarpine and cocaine having failed to give relief, the eye was removed soon afterwards. The operation was followed by hæmorrhage from the orbit which lasted twelve hours despite treatment. The eyeball was hardened in formol and alcohol, and was then divided by horizontal incisions into three parts. The retina was in place and presented numerous ecchymoses. The vitreous body was detached behind. The anterior chamber was very shallow, and its angle was occluded. Upon microscopical examination, the optic nerve was found to be atrophic, particularly in the neighbourhood of the papilla; the interstitial tissue, on the contrary, was thickened and rich in nuclei. The veins and capillaries were filled with blood; the central vein, which showed no sign of thrombosis, had normal coats and intact endothelium. The other veins were markedly dilated. The calibre of the central artery was reduced one-half; the middle, and especially the inner, coat were much thickened. The retinal vessels, which showed no signs of thrombosis, presented the same appearance as the vessels of the optic nerve. The lumen of the small arteries could scarcely be said to exist, while that of the larger vessels was distinctly narrowed, owing to a diffuse hyaline thickening of the arterial walls. Although the veins were dilated, yet they showed neither thrombosis nor thickening of their walls. Retinal changes were present.

The venæ vorticosæ were filled with blood; the lumen of the choroidal arteries was markedly reduced by thickening of their walls. Similar lesions were present in the iris and ciliary body. The disease, therefore, in the above case was in the nature of an endarteritis proliferans. Ahlstrom concludes that the cause of hæmorrhagic retinitis is to be found as often in arterial alterations as in thrombosis of the central vein.

S. S.

De Lapersonne, F.—Sarcoma in a stump of an eye in a child. (Sarcome développé dans un moignon d'œil chez un enfant.) *Archives d'ophtalmologie,* T. XXIII (1903), p. 213.

The eye of a child became hydrophthalmic after an attack of ophthalmia neonatorum, so that ablation of the anterior segment of the globe was performed at three years of age by Terrien. The case was seen by De Lapersonne some eighteen months after the operation—that is to say, when the child had attained the age of 4½ years. The conjunctiva was then reddened; chemosis was present about the cicatrix; and tension was notably augmented. The diagnosis seemed to lie between a neoplasm and a new infection. The eye was eventually removed. The operation offered some difficulties, because the intra-ocular tumour, which was present, had spread to the orbit. But the optic nerve was cut far back, the orbit exenterated, and the thermocautery applied to the apex of the orbit. Immediate section of the eye showed that the latter contained a soft tumour, and the microscopical findings led to a conclusion that this was in the nature of a glioma. A more careful investigation, after the proper methods of hardening, failed, however, to confirm this preliminary diagnosis. The stump was transformed into a neoplastic mass, surrounded by the much thickened sclera. The interior of the cavity was divided up by fibrous bands, originating from the operative cicatrix. In the spaces thus produced were round cells, with large and deeply-staining nuclei. Vessels were few, and mostly without definite walls. No traces of the choroid or retina could be found. The optic nerve (three times its ordinary size) was represented only by its dural sheath, filled to repletion with neoplastic elements. De Lapersonne concludes that the tumour was a leuco-sarcoma, a diagnosis confirmed by the after-history of the case. After several months, a recurrence was removed from the orbit, and found to be a pure embryonic sarcoma. Further recurrences took place, and the child was eventually removed from hospital in a cachectic state that did not promise well for a continuance of life. S. S.

Sgrosso, E.—Episcleral cyst in Schwalbe's space in an eye affected with traumatic irido-cyclitis. (Cisti episclera le dello spazio di Schwalbe, in un occhio affetto da iridociclite per traumatisme). *Annali di Ottalmologia*, Vol. XXXII, Fasc. 2-12, p. 829.

Sgrosso describes the anatomical lesions found in an enucleated eye, especially insisting upon a cystic formation which involved the pericorneal segment of Tenon's capsule.

A. ANTONELLI.

Parsons, J. Herbert.—Epithelial Hyperplasia of a Ciliary Process. *Royal London Ophthalmic Hospital Reports*, vol. 15, part 4, October, 1903.

The case here recorded is that of a man, aged 65 years, whose left eye became inflamed without injury. The eye was excised, but the condition present had nothing to do with the interesting swelling on the ciliary process which is described. On one of the ciliary processes was a globular swelling ⅞mm. by 1mm. The main mass of the swelling consisted of irregular groups of cells, resembling non-pigmented epithelium, lying in a hyaline matrix, with numerous irregular spaces. No tubular arrangement of the cells could be demonstrated, although the general disposition was suggestive of it. These cells were due to the proliferation of the inner layer of the retinal epithelium. There was no evidence whatever of inflammation. In all probability the growth was due to a chronic degenerative hyperplasia of the epithelium, accompanying old age. There was no evidence of malignancy, and no tendency to the invasion of other tissues. Other recorded cases are referred to.

C. D. M.

Geuns, Van.—The staining of gonococci according to Pappenheim's method. (De gonococcus kleuring volgens Pappenheim.) 44*st. Jaarverslag von het nederlandsch gasthuis voor ooglijders*, Utrecht, 1903, and *Rev. générale d'ophtalmologie*, 30 avril, 1904.

In order to stain gonococci, Pappenheim recommends that the cover-glass should be immersed for a minute in a solution containing methyl green, pyronine, and distilled water. Van Geuns has modified this method by preparing beforehand the two following solutions: (1) methyl green, 1 gramme, 96 % alcohol, 10 c.c., and distilled water, 90 c.c.; (2) pyronine, 1 gramme, 96 % alcohol, 10 c.c., and distilled water, 90 c.c. As pyronine is not very soluble, the solutions must be filtered. To stain preparations, Van Geuns places in a watch-glass several drops of the two solutions in the proportion of two drops of the methyl green to one of the pyronine and two of distilled water. The staining may be carried out with or without heat. When the solutions are old, pyronine has a more intense action. Under those circumstances the proportion of methyl green and of water must be increased. Gonococci take a red colour, cell nuclei dark-blue, the plasma of leucocytes a clear blue, and the plasma of the epithelial cells a rose or violet colour. Van Geuns employs Gram's method as a means of control. H. DOR.

Rumschewitsch, K.—The anatomical investigation of a case of gumma of the Iris. (Anatomische Untersuchung eines Falles von selbständigem Gumma der Regenbogenhaut.) *Klin. Monatsbl. f. Augenheilkunde,* J. XLI, Bd. I (1903), p. 27.

Rumschewitsch was consulted by a man, aged 48 years, whose left eye showed posterior synechiæ and deposits on the lens-capsule, due to syphilis acquired eighteen months before; V. = 1/10. Five years later, V. = 1/20. Numerous synechiæ. Iridectomy proposed, and declined by the patient. Six years later—that is eleven years after patient was first seen—the cornea had become so dull that focal illumination had to be employed in order to see the iris. In the region of the pupil there was an indistinctly-defined tumour of yellowish colour, measuring 1.5 mm. by 3 mm. V.=no perception of light. The eyeball was hard, and pain severe. Periosteal nodes on tibia, ulna, and frontal bone. A couple of weeks later, pus was noted in the anterior chamber, and the eyeball was removed on account of unbearable pain. *Anatomical investigation.*—Antero-posterior measurement of eyeball, 22.5 mm. Lying in the position of the pupil was an oval swelling, the vertical diameter of which was 3 mm. Ocular conjunctiva thickened and hyperæmic. Numerous vessels entered the cornea, particularly its deeper layers, from the limbus. Between the lamellæ of the cornea were small, round cells, here and there aggregated into heaps. Base of iris applied to periphery of cornea, so that Fontana's spaces were completely obliterated. In the ciliary zone of the iris very few stroma cells; numerous epithelioid cells and much reticulated connective tissue. Retiform connective tissue, many blood-vessels of new formation, extravasations, and pus cells in small number were found in the region of the anterior boundary layer. Lower and upper edge of iris were tilted backwards, and the thickened pigmented epithelium was united to the lens capsule by a thin layer of connective tissue. In the lower part of the iris, near the lens capsule, were remains of the sphincter, numerous blood vessels, spindle cells, flat cells, round pigment cells, and aggregations of pigment. The vessel walls were in many instances thickened by hyaline changes; their endothelium was often so hyperplastic as to occlude the lumen. Collections of round cells found around the vessels. The gumma occupied the upper segment of the iris, and was separated from the lens capsule by a thick layer of pigmented nuclei. Its amorphous centre did not stain, and its other parts stained badly. A capsule of concentrically arranged spindle cells surrounded the gumma, some of the elements of which manifested hyaline changes. The remains of the sphincter could be recognised here and there. Retina and choroid showed no changes, although a round-cell infiltration of the posterior ciliary arteries, the septa of the lamina cribrosa, and of the papilla and neighbouring parts was present. MAX P.

Bartels, M.—The fibrillary structure of the ganglion cell layer of the retina. (Die fibrilläre Struktur der Ganglienzellenschicht der Netzhaut [ganglion opticum].) *Zeitsch. für Augenh.*, April, 1904.

Bartels describes two methods of applying to the retina the silver impregnation method of Bielschowsky, both of which give excellent results and demonstrate in the clearest manner the presence of fine fibrils in the ganglion cells, their dendrons and axons. He describes fibrillæ which pass from one dendron to the other at a point of division without passing through the cell at all, and a few times he saw direct communication between two cells by means of these fibrillæ. These observations, the author states, render doubtful the assumption of the unity and independence of the neuron, but at present it is impossible to decide definitely either way. A. LEVY.

Birch-Hirschfeld, A.—A contribution to the Anatomy of Xanthelasma of the Eyelids. (Beitrag zur Anatomie des Lidxanthelasmas.) *Graefe's Archiv. für Ophthalmologie*, LVIII, 2, (27 : v : 04.)

The causation of xanthelasma has not yet been clearly established. The old opinion that it was intrinsically connected with hepatic trouble does not seem altogether erroneous, but applies to a minority of cases only. Birch-Hirschfeld shows by using modern methods of staining (especially Sudan III), that the specific xanthoma-cells (compare OPHTHALMOSCOPE Vol. II, page 229) which lie under the epithelium are stuffed with fat drops, and form globular or fusiform layers round the vessels. After extracting the fat, a peculiar coagulating substance is seen to fill the interstices between the protoplasmic network. It seems most likely that the xanthoma cells are due to degenerative changes in endothelial and perithelial cells. Giant cells are also of common occurrence, but are of a type different from those found in tuberculosis.

R. GRUBER.

Raehlmann, Professor.—Physico-physiological results of ultra-microscopic investigations of coloured bodies. (Recherches ultra-microscopiques sur les substances colorées résultats, physico-physiologiques.) *La Clinique Ophtalmologique*, 25 septembre, 1903.

Stevenson, Edgar.—The Influence of the Semicircular Canals on the Movements of the Head and Eyes. *Liverpool Med. and Chir. Journal*, January, 1904.

In this paper Stevenson gives the results of some experiments he made in Germany in 1890–91 in the laboratories of Goltz and Ewald. He describes the effects upon the movements of the head and eyes of stimulating and of destroying the semi-circular canals in animals. C. D. M.

Bull, George J.—The accommodative asthenopia of Donders. (L'asthénopie accommodative de Donders.) *Annales d'oculistique*. T. CXXX, 1903, p. 154.

Berardinis, De.—Hypopyon ulcer caused by bacterium coli. (Ulcera corneale con ipopion, da bacterium coli.) *Annali di Ottalmologia*, Vol. XXXIII, Fasc. 1-2, p. 18.

The clinical, anatomical, bacteriological, and experimental observations of De Berardinis confirmed the integrity of Descemet's membrane, despite hypopyon and the origin of the latter from the iris. As to the bacteriology, the bacillus coli has been found in several affections of the eye, but as a cause of ulcerative keratitis, the present observation is the second only, the first having been published by Nedden.

A. ANTONELLI.

Mc Nab, Angus.—Ulceration of the Cornea, due to infection with Bacillus Pyocyaneus. *Ophthalmic Review*, March, 1904.

The patient was a man, aged 40 years, whose left eye was good until six days before he was seen. The vision was now only hand-movements. There had been no injury. There was œdema of the left eye and conjunctiva with deep circumcorneal injection. There was a greenish secretion from the conjunctiva and a deep ulcer of the conjunctiva. The anterior chamber was full of pus, and the bacillus xerosis and bacillus pyocyaneus were present. A Saemisch section was made and the pus evacuated, and the bacillus pyocyaneus was abundantly present. The iris became adherent to the back of the cornea, and for this an iridectomy was performed. Cyanide of mercury was used as a lotion and the ulcer healed. but the vision was only hand-movement. A detailed description of the bacteriological examination is given, and other recorded cases are referred to by the author. C. D. M.

Parsons, J. Herbert.—Primary extra-dural tumours of the Optic Nerve. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

Parsons has a paper, which occupies eighteen pages of the *Transactions*, upon primary extra-dural tumours of the optic nerve.

His patient, a girl aged 7 years, was admitted to the Moorfields Hospital, under Mr. Arnold Lawson's care, suffering from proptosis of the left eye, of about three months' duration. Upon examination, there was unilateral ptosis, exophthalmos directly forwards, limitation of ocular movements in all directions, optic papillitis, and normal vision. Some two months later, a prominence could be felt on the left lower orbital margin, near the inner angle. Vision was still unaffected, although many white dots were found in the macular region. The disc of the other eye was blurred and slightly elevated; V. $=\frac{6}{6}$. The contents of the left orbit were exenterated. The tumour thus removed was found to measure 23 mm. from the posterior pole of the eye to the cut end of the growth; its greatest vertical diameter was 35 mm., and its horizontal diameter, at the same level, 36 mm. It therefore practically filled the orbit. The optic nerve passed unchanged through the middle of the tumour, which was obviously continuous with the dural sheath. Microscopically it was found to be made up of dense masses of fibrous tissue, mostly hyaline, with a variable number of cells. It belonged to the connective-tissue group of tumours, and was classed by Parsons as a fibro-sarcoma, of relatively low malignancy. At the same time, it presented some resemblance to an endothelioma, and may really have been such.

According to Parsons, eighteen cases only of undoubted primary extra-dural tumour of the optic nerve have as yet been recorded. The author analyses these cases, with results that may be summarised as under :—

AGE.—As half the cases commenced before the age of ten years, the disease must be regarded as essentially one of early life.

SEX.—Ten cases were in males, and six in females.

EYE.—Right eye affected in five, and left eye in eight cases.

SYMPTOMS.—Exophthalmos was the prominent symptom of the disease that usually induced the patient to seek advice. The exophthalmos, as a rule, was directly forwards, but in seven of the cases there was some modification in the direction. Hence, too much stress must not be laid upon proptosis in or about the orbital axis, as a sign of tumour of the optic nerve. The tumours are generally painless. The movements of the eye are usually restricted, "particularly in the opposite direction to any modification of proptosis directly forwards." In some instances, considering the size of the tumour, there has been surprisingly little interference with the movements of the eyeball. In the early stages, vision is often normal or almost normal; its failure is generally slow. In most of the cases there has been optic papillitis of the "choked disc" type, which, later, was replaced by post-neuritic atrophy. Retinal hæmorrhages have been observed. Lagophthalmos may supervene, and entail its usual consequence in the shape of ulceration of the cornea. "In no case has the globe been implicated directly in the growth, nor has progressive hypermetropia from pressure been recorded, as in some cases of intra-dural tumours."

PATHOLOGICAL ANATOMY.—Most of the tumours, in all likelihood, arise from one or other of the nerve sheaths. Parsons favours the suggestion made by Byers (*Studies from the Royal Victoria Hospital, Montreal*, August, 1901), which is to the effect that there may be a process of "fibromatosis" at work, comparable with the condition met with in the subcutaneous tissues in elephantiasis, and secondary to an obstruction of the normal lymphatic channels. The tumours differ from ordinary sarcomata, and are more allied to the infective granulomata. They may be due to parasitic irritation. It is interesting to note that of twelve tumours belonging to the group under discussion, nine were almost certainly examples of endotheliomata.

DIAGNOSIS.—The growths can seldom be differentiated from intra-dural tumours of the optic nerve. As to the general diagnosis, Byers (*loco citato*) is quoted as saying: "As proptosis gives us the principal clue to the presence of an orbital growth, so *an associated early and profound reduction of vision* indicates more than any other symptom the presence of a tumour of the optic nerve. Taken together, these two symptoms alone, *unilateral and early exophthalmos with early amaurosis*, are almost in themselves proof positive of the presence of the condition under discussion; but if in addition one has, as is frequently the case, *marked changes in the papilla*, the diagnosis of a tumour of the optic nerve is practically certain."

PROGNOSIS.—The malignancy of these tumours is essentially a local one; in most cases metastasis need not be apprehended. At the same time, the impossibility of eradicating intracranial extensions, renders the prognosis grave. There is some evidence to show that incomplete removal of the orbital growth is not invariably followed by recurrence.

TREATMENT.—Parsons is of opinion that in these cases Krönlein's operation is indicated, and, further, that the eye should be retained whenever possible.

Parsons concludes a painstaking communication with a tabulated list of the eighteen cases of primary extra-dural tumours of the optic nerve so far published.

Opin and Rochon-Duvigneaud.—Lesions of the retina compared with those of other organs in patients affected with renal retinitis. (Lésions comparées de la rétine et des autres organes chez les malades atteints de rétinite Brightique.) *Archives d'ophtalmologie*, mars, 1904, and *Journal de Physiologie et de Pathologie générale*, novembre, 1903, and janvier, 1904.

The name "albuminuric retinitis," as Opin and Rochon-Duvigneaud point out, is not correct, since albumen, unassociated with kidney disease, does not cause retinitis. On the other hand, there is such a thing as albuminuric retinitis without albuminuria, because the last symptom may be absent from certain stages and forms of nephritis. Albuminuric retinitis, however, without nephritis, does not exist. What is the exact nature of the connection between the two conditions, retinitis and nephritis? Are the changes in the retinal arteries the cause of the other retinal alterations? Are the vascular lesions the cause of the kidney mischief, on the one hand, and of the retinitis, on the other? The authors attempt to answer these amongst other questions by appealing to the results of five autopsies in the course of which the retina, as well as the other organs, was examined pathologically.

The following is a *résumé* of the changes found in the cases. The vascular alterations were more marked in the choroid than in the retina. They varied from a simple narrowing, due to endovasculitis, to obliteration and atrophy of the vessels. Interstitial hæmorrhages were common; the pigmented epithelium frequently showed changes. The retinal lesions, as a rule, were localised to the posterior pole of the eye. These lesions, although they reached their maximum in the internal layers, invaded nevertheless the entire thickness of the retina, not even sparing the rods and cones. They included œdema, hæmorrhages, and fibrinous infiltrations. Changes in the essential elements of the retina—

as, for example, moniliform swelling of the nerve-fibres—are not usually destructive, since sight is maintained despite gross ophthalmoscopic lesions, and where vision has failed, it may be re-established almost completely. Fatty degeneration is betrayed only by the presence of some fatty granules in Müller's fibres and of disseminated granulous bodies. Certain elements, notably the bodies of the visual cells, may become increased in length. Neither multiplication of the normal elements nor invasion of migratory elements, as in inflammation, could be demonstrated. The changes in the retinal vessels, although less pronounced than those in the vessels of the choroid, produce more effect, inasmuch as the first-named structure is relatively less vascular and its arteries are terminal. In the authors' view, the changes in the retinal vessels do not suffice to explain all the alterations in the nervous structure nourished by them, because in spite of their importance they present neither the absolute constancy, nor the intensity, nor the extension that could be reasonably expected from lesions supposed to cause all the other changes. Furthermore, the retinal lesions do not appear to be the outcome of a simple ischæmia. The authors looked for lesions analogous to those of the retina in the other organs of the body, more especially in the central nervous system. In their cases the only organs affected were the kidney, the eye, and the heart. The cardiac changes were purely hypertrophic, and were in no sense comparable with the retinal and renal changes. The optic nerve showed only a secondary degeneration of the axis-cylinders whose cells of origin had been destroyed in the retina. In several of the cases endarteritis, present in the choroid, was found to have spared the rest of the arterial system. In a single case, where disseminated endarteritis existed, it had failed to determine parenchymatous lesions, so that diseased arteries were found in sound organs. Lastly, the writers declare that the retinitis is not to be regarded as an œdema due to Bright's disease.

The remainder of the communication is occupied by an attempt to prove that retinitis is due to, and directly dependent on, nephritis, rather than that both the affections named result from some general cause or causes, such as arteriosclerosis. S. S.

Heitler.—Upon alterations in the pulse in closing and opening the eyes. (Ueber Pulsveränderung beim Schliessen und Oeffnen der Augen.) *Med.-Chirurg. Zentralbl.*, 1904, Nr. 9, and *Wochenschr. f. Therapie u. Hygiene des Auges*, 24 März, 1904.

In a large number of individuals Heitler has noticed that the pulse diminishes on closing and increases on opening the eyes. The phenomenon is connected with the action of light. In two cases excitation of the pulse came about on closing the eyes. This is due to irritation of the conjunctiva by the falling lid, in the same way as by irritation of the mucous membrane a reflex excitation of the pulse takes place, as seen in muscle contraction. The phenomenon is best seen in youthful individuals. Blood-pressure before and during closure of the eyes manifested a reduction of 10% to 21%. Changes in the volume of the heart were also observed. in the sense that the heart dulness became greater with the closing of the eyelids, and *vice versâ.* MAX P.

II.—CONGENITAL CONDITIONS.

Faber, E.—Conical Papilla. *Ned. Tijdschrift v. Geneeskunde*, 1903, No. 17.

Faber observed a conical swelling of the papilla in forty cases. As this condition was found in a great many different diseases, asthenopia, uncorrected presbyopia, tobacco amblyopia, atrophy of the optic nerve, and also in eyes presenting no signs of any morbid condition, there can be little doubt that this so-called conical swelling is nothing other than the normal slight prominence of the peripheral parts of the disc. G. F. ROCHAT.

Hirschberg, J.—Slow disappearance of a pupillary membrane. (Ueber langsame Rückbildung der persistirenden Pupillen-Haut.) *Centralb. für prak. Augenh.*, April, 1904.

Hirschberg divides cases of persistent pupillary membrane into two groups: (1) those observed in the first weeks of life, where marked changes may occur rapidly, and (2) those seen later in life, where the condition persists unchanged through long periods. The case he cites is peculiar, in that diminution in the membrane occurred during the period of observation which was from the age of 2 to the age of 20 years. In 1885 he first saw the child, then 2 years old. It was quite healthy, as were the parents. The condition found was very small eyes on both sides. The left eye showed a coloboma of the iris and choroid. The right a well-marked pupillary membrane. Four years later Hirschberg was able to make out a dislocation inwards of the right lens, which was smaller than normal, and later on a similar dislocation of the left. By the time the child reached the age of ten years, the nasal third of the right pupil had become quite free, and by the time he was

20 years, only two or three strands remained, but in the meantime he developed a detachment of the retina, so that the eye became blind. The left eye remains in its former condition V. c.—8.0 D.=$\frac{1}{60}$. A. LEVY.

Marlow, F. W.—Buphthalmos in a subject of congenital dislocation of the Crystalline Lens. *Archives of Ophthalmology*, September, 1903.

Stanculeano, G., and Costin, N.—Two cases of coloboma of the eyelid. (Deux observations de Colobome des Paupières.) *Annales d'oculistique*, T. CXXXI, janvier, 1904, p. 49.

Case No. 1.—A female infant, aged 7 weeks, presented the curious malformation of one upper lid shown in the accompanying illustration (fig. 1). The median segment of the lid was adherent to the cornea, leaving only about 1 mm. of the last-named structure free. The lacrymal points were absent; the external commissure could not be said to exist; and supernumerary auricles (*molluscum pendulum*) were present

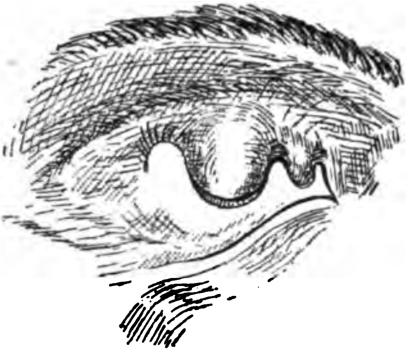


FIG. 1.

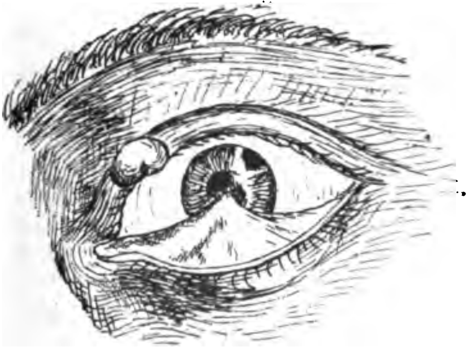


FIG. 2.

in front of each tragus. Case No. 2.—A married woman, aged 18 years, presented (*see* fig. 2) at the junction of the inner quarter of the upper lid with the outer three-quarters a pyriform tubercle, as large as a pea. The cilia were absent from that spot, which was marked by a slight depression running, like a gutter, into the conjunctiva. A dermo-epithelial structure connected the lower eyelid with the lower third of the anterior surface of the eyeball. The supero-external portion of the iris was missing; a congenital cataract was present. The patient's body was asymmetrical.

The various deformities present in the above cases are explained by Stanculeano and Costin on Van Duyse's theory of amniotic adhesions. H. DE V.

Bietti, A.—Upon movements of retraction of the eye and thinning of the sclerotic in congenital muscular anomalies. (Sui movimenti di retrazione dell'occhio e sull'assottigliamento della sclerotica nella anomalie muscolari congenite.) *Annali di Ottalmologia*, Vol. 32 (1903), Fasc. 5-6, p. 257.

Bietti studies the congenital form of alterations in the movements of the eye characterised by abolition or limitation of abduction, moderate reduction in adduction, retraction of the globe during convergence, and narrowing of the palpebral fissure when the globe is retracted. The trouble is rarely bilateral, and it most often affects the left eye. A slight degree of divergence may be present. Bietti discusses the probable anatomical and functional causes of the condition, and ends by relating a remarkable case where the sclera was thinned behind the insertion of the internal rectus in a young girl affected with congenital cataract, bilateral microphthalmos, and convergent strabismus. One should anticipate the existence of these thinnings, although they are rare, in order to avoid perforating the sclerotic in the operation for strabismus. A. ANTONELLI.

Frank, Mortimer.—Congenital orbital sarcoma of endothelial origin in an infant, operation and preservation of globe. *Medical Record*, January 9, 1904.

A baby, aged eight weeks, was brought to Frank with a swelling, about the size of a peanut, at the inner part of the left upper lid, between the internal angular process and the supra-orbital notch of the frontal bone. The tumour had been noticed at birth. It was smooth, tense, and not nodulated, and on steady pressure, neither pulsation nor recession was felt. Under chloroform, the growth, which was adherent to the sclera, was removed by dissection after dividing the internal rectus and superior oblique muscles. It was encapsulated, and resembled brain tissue, both in colour and consistence, Complete recovery with the eye slightly convergent. The tumour was sausage-shaped, attached at its proximal end by numerous bands directly to the periosteum of the inner wall of the orbit; it measured 10 mm. in thickness by 2 cm. in length. Upon pathological examination, it proved to be a congenital alveolar sarcoma of endothelial origin.

Knape, Ernst N.—Bilateral congenital Aniridia in Father and Son. (Aniridia congenita bilateralis bei Vater und Sohn.) *Woch. f. Therapie u. Hygiene des Auges*, 26 mai, 1904.

Father and son presented congenital bilateral aniridia, incomplete in the former, complete in the latter. Lenticular opacities were present in both cases.

Galezowski, J.—Congenital aniridia. (Aniridia congénitale.) *Recueil d'ophtalmologie*, mars, 1904.

According to Moissonier, congenital aniridia is a very rare condition. He could find only 24 published cases. Galezowski gives an account of three cases of his own. Two were mother and son. The mother had total absence of the iris, cataract, nystagmus, and paresis of the external rectus in each eye. Vision was reduced to perception of fingers at 20 centimètres. The son had double aniridia, which was not quite complete, cataracts, and nystagmus. The left cataract was limited and the fundus could be seen. There was no atrophy of the disc and no retinitis pigmentosa. In neither case was there any subluxation of the lens or increased tension. The third case was that of a girl of 4 years of age. The iris was entirely absent from each eye. There was posterior polar cataract in the left, but the vision was good, especially in the right eye. She had double ptosis. Tension was normal. There was no subluxation of the lens and no nystagmus. Galezowski agrees with von Ammon in attributing the condition to an arrest of development rather than to an intrauterine pathological process. J. JAMESON EVANS.

van Genns, J. R.—A case of an extension of an arterial loop into the vitreous. (Ein Fall von in den Glaskörper vordringender Arterienschlinge.) *Zeitschrift f. Augenh.*, April, 1904.

In this case there were two arteries, not twisted upon one another, which sprang from the disc and projected forwards into the clear vitreous. The direction of these arteries was towards the temporal side, and they described a curve in their course. They were united to each other by fine connective tissue and presented the normal reflex line of arteries; peripherally they were connected by a flattened cross-piece. In calibre they approached the main divisions of the central artery, and they were from 2 mm. to 4 mm. long.

A. LEVY.

Stephenson, Sydney.—Two cases of Microphthalmos, one slight and the other extreme. *British Journal of Children's Diseases*, June, 1904.

One of Stephenson's cases showed unusually small eyes, nystagmus, convergent squint, and hypermetropic astigmatism. The associated conditions included preputial adhesions and a post-anal dimple. In the second case the eyeballs appeared to be absent, but on deep palpation through the upper lids, a small body, like a pea, could be felt towards the back of each orbit. No other deformities were present.

Rogman.—Orbital cyst and microphthalmos. (Kyste orbitaire et Microphtalmie.) *Annales d'oculistique*, janvier, 1904.

An elaborate account (illustrated by four cuts) of the histological appearances presented by a microphthalmic eye associated with a larger cyst occupying the position of the normal eye. The patient, a child of 8 months, presented no other developmental anomalies.

H. DE V.

Michel, Professor v.—On one-sided, family, and congenital disturbance of innervation of the cervical sympathetic. (Ueber einseitige familiäre und angeborene Innervationsstörungen des Halssympathicus.) *Zeitschr. f. Augenheilkunde*, September, 1903.

After alluding to instances of family disturbances of the cervical sympathetic reported by Teuscher, Ollivier, Spamer, and Oppenheim, v. Michel relates the following case, which he observed in a boy, nine years of age. Shortly after birth it had been noticed that the right palpebral fissure was so widely open as to cause a peculiar facial expression. When examined by Michel, there was retraction of the right upper lid, slight exophthalmos, and the right side of the face felt warmer and was better developed than the other side. The pupils were equal and re-acted normally; the fundi presented no unusual features. There were no other symptoms as regards the central nervous system. Michel assumes that in this case there was a simultaneous irritation and paralysis of certain fibres in the cervical sympathetic nerve. The lad's mother showed slight vaso-motor disturbances, the exact nature of which is not specified. The author looks upon the congenital changes in the sympathetic as so many stigmata of a neuropathic degeneration.

Motolèse, F.—Two cases of bilateral congenital paralysis of the extrinsic muscles of the eye in two persons belonging to the same family. (Due casi di paralisi congenital doppia di tutti i muscoli estrinseci dell 'occhio in due persone della stessa famiglia.) *Annali di Ottalmologia*, Vol. XXXIII, Fasc. 1-2, p. 107.

Motolèse makes an interesting contribution to the subject of congenital ophthalmoplegia. He reviews the cases published from 1872 to 1902, and concludes that congenital ophthalmoplegia may be complete or incomplete, that it is often accompanied by other congenital anomalies, and that our knowledge of its etiology is still incomplete. Syphilis, tuberculosis, abuse of alcohol, or psychical traumatism may be traced in the antecedents of the patients, but in most instances the *anamnesis* is negative. The congenital defect in the motility of the eye may be due to lesions of the central nervous system, especially of the nuclei, or, on the other hand, to primary lesions of the muscles themselves. A. ANTONELLI.

Speyr, Th. de.—Three cases of ectropion of the uvea or of partial coloboma of the Iris. (Trois cas d'ectropion de l'uvée ou de colobome partiel de l'iris.) *Archives d'ophtalmologie*, T. XXIII (1903), p. 697.

Speyr describes and illustrates three instances of ectropion of the uvea, or, as he calls the condition alternatively, partial coloboma of the iris. In the first case, which occurred in a child, aged about 13 years, the deformity of the iris was, associated with a (?) dermoid tumour of the limbus. The pupil, which re-acted normally, lay nearer to the nasal than to the temporal border of the cornea. It responded well to mydriatics and to myotics. The so-called coloboma took the form of a striated, dark-brown area, of irregular shape, which occupied a great part of the nasal half of the iris. The retinal veins were somewhat tortuous. The second case, met with in a girl of 17 years, showed a partial coloboma surrounding the upper and outer part of the pupil. The latter, which re-acted well to light, was situated somewhat excentrically. The third case was in a patient of 59 years, who presented merely a small coloboma of the iris in the guise of a brown spot situated at the lower-inner edge of the pupil. The pupil thus appeared to be elliptical. H. de V.

Grossman, Karl.—Cyst of Lower Lid from a case of Unilateral Anophthalmos. *Liverpool Med. and Chir. Journal*, January, 1904.

The patient was a girl, aged 16 years, who suffered from congenital anophthalmos. Grossman removed the cyst, as an artificial eye could not be worn. It was found on examination to contain a rudimentary eyeball. C. D. M.

III.—DISEASES AND INJURIES OF THE EYE AND ORBIT.

Schiele, A.—Upon the question of Hemeralopia and Xerosis. (Zur Frage der Hemeralope und Xerosis.) *Woch. f. Therapic u. Hygiene des Auges*, 5 Mai, 1904.

In the Russian government of Kursk hemeralopia is endemic, and reaches its maximum in spring at the end of the great fast. It is most prevalent in years when the harvest is bad. There appears to be no connection between its incidence and meteorological conditions. Men (64.4%) are more subject than women (35.6%). The disease is commonest between the ages of 25 and 60 years (502.8); then between the ages of 15 to 25 years (288.8); and, lastly, between the ages of 5 and 15 years (110.4). Xerosis of the conjunctiva is a somewhat frequent accompaniment of hemeralopia, and exceptionally the change may extend to the cornea. Hemeralopia may begin with lacrymation and irritation of the eyes. Schiele recounts briefly cases showing such complications as mumps, adenitis, xerostoma, xerotic patches on the vocal cords, keratitis, keratomalacia, and hypopyon. The cause of the condition appears to be insufficient food, especially the absence of fat. Liberal doses of cod liver oil are almost a specific as regards the night-blindness. S. S.

Nedden, Zur.—Curious case of retention of copper particles in the human eye. (Mitteilungen über ein eigenartiges Verhalten von Kupferstückchen im menschlichen Auge.) *Klin. Monatsbl. f. Augenheilkunde*, 1903, Band I, p. 484.

Zur Nedden describes an interesting case of a woman in whose eye a copper splinter had found its way through the iris between the equator of the lens and the ciliary body more than three years after injury from a percussion cap. A second particle of copper remained in the interior of the eye for more than ten years without setting up any appearances of irritation.

A. Birch-Hirschfeld.

Rollet, Étienne.—The clinical characters of syphilitic chancre of the bulbar conjunctiva. (Caracterès cliniques du chancre syphilitique de la conjonctive bulbaire.) *Revue générale d'ophtalmologie*, mars, 1904.

Rollet gives a detailed description of a case of chancre of the conjunctiva. He has been able to find only sixteen cases already published. The paper, which is illustrated with a coloured plate, should be read in the original.

W. Ernest Thomson.

Cirincione.—Concretions in the head of the Optic nerve. (Concrezioni nella testa del nervo ottico.) *La Clinica Oculistica*, Marzo, 1904.

Cirincione describes two cases of hyaline bodies at the optic disc, of which one was examined histologically. The facts are as under :—(1) The patient came on account of a recurrent epithelioma, which had invaded the eyelids and adjacent structures. The right optic disc was of a deep-red colour, with a well-marked physiological cup. In the outer segment was a whitish, club-like swelling, lying between the vessels and the periphery. The eminence measured about 0.5 mm., and small vessels passed anterior to it. Its central part was raised and of a semi-transparent, pearly hue, while its margins were pink-white, grey, and shady. A second oval swelling, less prominent than the above, was seen in the inferior quadrant of the disc. The retina was normal. In the left eye, there was one small elevation below. The right eye was enucleated on account of the malignant growth, embedded in paraffin, and sections were cut. The growth, which occupied half the optic disc, consisted of an ovoid mass, lying in front of the lamina cribrosa and behind the expansion of the nerve fibres. Its outline was irregular. Its central parts were apparently crystalline, and it contained no organic matter. (2) The second patient sought advice on account of a partial detachment of the left retina, and the concretions were observed in the other eye. On the papilla were three pearly-white roundish swellings, forming a triangle, between which emerged the vessels, the main trunks being hidden. The temporal region of the papilla was dark-red, and the nasal part was rose-coloured. Otherwise there were no abnormalities, and no further changes had occurred when the eye was examined eight months later.

Summing up the recorded cases of hyaline concretion, it may be said that they look like coarse whitish globules with irregular edges. Their position probably varies according to their age. They appear first near the central trunks of the retinal vessels, and thence spread towards the periphery of the disc—that is to say, in the direction of least resistance. The pearly lustre of the raised central part and the dusky appearance of the borders agree with the histological findings; for the centre is compact and calcified, while the periphery is semi-transparent, homogeneous, and almost colloid. The deep-red of those parts of the disc that are free from the growth is owing partly to the effects of contrast and partly to the close juxtaposition of the displaced capillaries. Cirincione does not agree with Sachsalber in thinking that optic neuritis is a constant accompaniment of the concretions. The absence of pathological signs and symptoms leads to the following conclusions: (1) That there is no destruction of nerve tissue; (2) That the foreign substance must form slowly, thus giving the nerve-fibres time to adapt themselves to the displacement, for were that not the case, scotomata would surely arise from the pressure of so large a mass. From the action of reagents upon the masses, Cirincione concludes that the substance is hyaline, and that it arises as little granules, which amalgamate around the main focus of the disease. There are three views with regard to the origin of these granules, *viz.*: (1) from the vitreous humour; (2) by the hyaline degeneration of the cellular or fibrous elements of the tissues; and (3) from transudation from the vessels. Cirincione, however, does not regard any of these hypotheses as plausible. The first was refuted by him and by Hirschberg in 1891; the second does not seem tenable, because if any tissue were destroyed, scotomata must result; the third theory is very vague, and has yet to be threshed out. ANNIE T. BARNARD.

Nicati, W.—Reattachment of the retina consecutive to the formation of a secondary cataract, and the spontaneous absorption of the last-named. (Recollement de la rétine, consécutif à la formation d'une cataracte secondaire et á la résorption spontanée de cette cataracte.) *La Clinique Ophtalmologique*, février, 1904.

A man of 46 years was unable to see well with one eye, a defect found by Nicati to be due to detachment of the lower half of the retina. The detachment persisted despite aspiration of the sub-retinal fluid. Posterior synechiæ and incipient cataract were present. Nine years later the cataract had become complete. When the patient was examined seven years afterwards, the scene had undergone a complete transformation. The patient was then able to see well with his left eye, from which the cataract had disappeared, the retina become reattached, while the visual field was normal or almost so. No trace of the lens could be found. The sight of the other eye was impaired by a nuclear cataract. A. DARIER.

Mould, Major W. T.—Foreign body in Eye. *Journal of the Royal Army Medical Corps*, May, 1904.

Fifty-two days after the injury to the face by the branch of a tree, Mould removed from the lower cul-de-sac of a lad, aged 13 years, a piece of wood, $\frac{3}{4}$ inch long and $\frac{3}{16}$ inch in diameter at the base. It had penetrated the floor of the orbit, and had become covered with conjunctiva.

Wandel.—Upon parenchymatous keratitis in acquired Syphilis. (Ueber Keratitis parenchymatosa bei akquirierter Lues.) *Woch. f. Therapie u. Hygiene des Auges*, 3 Dezember, 1903, and *Dissertation*, Breslau, 1903.

Our knowledge of the fact that acquired syphilis may cause interstitial keratitis dates from the year 1872, when Fournier published the first case of the kind. He distinguished two forms, *viz.*, diffuse and punctate. Mauthner suggested that the punctate deposits in the cornea were due to gummatous infiltrations. Wandel now reports a case from the practice of Groenouw, and, in addition, has collected forty-five others from the literature of the subject. From a review of these cases, Wandel has reached the following conclusions.—The affection, as a rule, is unilateral. The time that elapses between primary infection, on the one hand, and keratitis, on the other, ranges from four months to twenty-four years. The duration of the disease is usually two to four months—that is, a much shorter time than in the more common affection. The malady begins with such subjective symptoms as lacrymation and dulness of sight. At the height of the disease the surface of the cornea is partly intact and partly stippled. In other cases, along with diffuse opacity, one sees individual yellowish-grey points, which may well be regarded as so many gummatous accumulations. Under specific treatment, recovery is generally complete. General treatment must be by anti-syphilitic remedies; local treatment, according to the stage, by atropine, cocaine, or yellow ointment. That disease of the uveal tract is primary is not yet proved by pathological examinations. The choroid and vitreous body have been found to be involved secondarily. S. S.

Troncoso, Uribe. — Floating vesicle in the vitreous. (Vésicule flottante du Vitré.) *Annales d'oculistique*, T. CXXX. (1903), I., p. 341.

Troncoso met with a semi-transparent, oval vesicle in the anterior part of the vitreous humour of a girl, 15 years of age. It was more or less thickly speckled with pigment, and measured 5 mm. by 3 mm. The vesicle was extremely mobile, but exhibited no independent movement. Beyond a medium grade of compound myopic astigmatism, the eye was healthy. Troncoso thinks that the vesicle may have originated from the uvea. H. DE V.

Batten, Rayner D.—Obliteration of a Retinal Vessel (vein), with formation of new vessels.' *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

Fisher, J. Herbert.—Aneurismal dilatations on diseased Retinal Arteries. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

A rheumatic lad, *ætat.* 13 years, was brought to Fisher on account of defective sight. The vision of the right eye could not be improved by glasses, and, upon examining the fundus, Fisher found some curious changes. For example, a white, glistening, comet-shaped mass lay above and to the outer side of the macular region, and there were similar white deposits in the peripheral parts of the fundus. Two of the retinal arteries showed a series of small local dilatations of aneurismal character, as well as other evidences of local disease. The aneurisms numbered three or four on each affected artery. One or two additional examples of aneurismal swelling could be seen in the periphery of the fundus. The veins generally were moniliform in calibre.

Bouchart, A.—Essay upon Granulations. (Essai sur les Granulations.) *Recueil d'ophtalmologie*, 1903, p. 245.

Bouchart has a paper upon the subject of conjunctival granulations as the last-named occur in Algeria. He discusses in turn the histology, pathogeny, and treatment of the palpebral outgrowths. Bouchart believes there is no specific element in trachoma, and quotes Morax's aphorism, namely, that a negative bacteriological examination furnishes presumptive evidence of the existence of the ailment. The clinical characteristics of trachoma are chronic evolution, with relapses of inflammation, and resistence to treatment. The chief means of contagion in Algeria are to be sought in the clothing of the natives and the abundance of flies. Conditions predisposing to contagion are tropical heat, humidity, paludism, organic debility, "scrofula," hereditary stigmata, and the neglect of personal hygiene. The specificity of trachoma, Bouchart thinks, is much more closely connected with the ***terrain*** (to use a military term) than with the pathogenic agent. With regard to treatment, Bouchart recommends the perchloride and, more particularly, the cyanide of mercury. Preparations of silver, as the nitrate, protargol, itrol, and collargol, find their indication in the more acute stages of the disease. Massage and jequiritol are recommended in suitable cases. "Expression," excision of the superior *cul-de-sac*, brossage, and so forth, yield good results. Constitutional treatment must never be neglected. Bouchart praises cacodylic medication. Finally, the necessity of educating the public in regard to trachoma and its dangers is insisted upon. S. S.

Bouchart, A.—Trichiasis through adiposity of the Eyelids. (Trichiasis par adipose des paupières.) *La Clinique Ophtalmologique*, 25 mars, 1903.

Bouchart states that this form of trichiasis is fairly common among Jews in Algeria. He describes an extreme case in which he performed operations on all four lids, removing a large amount of fat, in addition to the ordinary procedure.

W. ERNEST THOMSON.

Poulard.—Tuberculosis of the lacrymal passages. (Tuberculose des voies lacrymales.) *Archives d'ophtalmologie*, décembre, 1903.

Poulard describes the adenitis accompanying lacrymal tuberculosis, which has recently been studied by Rollet (*see* OPHTHALMOSCOPE, Vol. I, 1903, p. 144). The author distinguishes three clinical forms of lacrymal tuberculosis: (1) a tuberculosis of rapid evolution accompanied by gross swelling of the glands; (2) a tuberculosis of slow evolution with moderate swelling of the glands; and (3) a tuberculosis without adenitis.

Koster, W.—On recurrent, alternating paralysis of the oculomotor nerve. (Zur Kenntniss der rezidivierenden, alternierenden Lähmung des Nervus Oculomotorius.) *Zeitschrift f. Augenh.*, Marz, 1904.

Koster cites several of these cases, and thinks that at least a large proportion of them are to be regarded as early symptoms of a very slowly-progressing tabes dorsalis. He does not deny the existence of the *migraine ophtalmoplégique* of Charcot, but says that such cases are very rare, and that most of the so-called idiopathic cases lack the initial hemicrania which is characteristic of the disease described by Charcot, and further differ from it in being alternating. On the other hand, most of the so-called idiopathic cases have Argyll Robertson pupil, and if carefully sought for, other nervous symptoms can usually be found, such as areas of anæsthesia, signs of early atrophy, or, possibly, mild crises. He thinks these cases are not necessarily syphilitic, and holds that mercury is contra-indicated as liable to do more harm than good, but gives potassium iodide and prescribes general tonic treatment. A. LEVY.

Collins, E. Treacher.—On injuries and diseases of the Orbit. *Clinical Journal*, February 3, 1904.

In the course of an interesting lecture Collins mentions several somewhat unusual cases, amongst them one of a lad, 7 years of age, suffering from an orbital sarcoma, which was removed by Krönlein's operation of osteo-plastic resection of the orbit with preservation of tolerable sight (6/24).

Warschawski, J.—On wounds of the lens by particles of copper. (Zur Casuistik der Linsenverletzungen durch Kupfersplitter.) *Die Ophthalmologische Klinik*, 20 Januar, 1904.

Foreign bodies lodged in the lens are rare accidents, as shown by figures quoted by the author of this article, translated from the Russian by Dr. O. Walter, of Odessa. Warschawski's case is as follows. A youth, aged 16 years, while at work as a locksmith, was struck in one eye by a piece of brass. Four months after the accident, examination disclosed neither redness nor irritation of the injured eye, the sight of which equalled 0.4. A small linear leucoma lay in the lower-outer quadrant of the cornea. In the anterior layers of the lower third of the lens was a shining, yellowish, metallic body, measuring 4 mm. by 2mm. The lens was transparent, except for a delicate striped opacity continuous with one end of the foreign body. The sideroscope yielded negative results. The case shows that a particle of copper or brass may remain in the lens for an indefinite time without either setting up opacity or inflammation, thus furnishing an instructive contrast to the behaviour of such particles when lodged in vascular parts of the eye (Leber). The article concludes with some considerations regarding such injuries from the point of view of compensation. S. S.

Chance, Burton K.—The ocular complications of Variola. *Trans. College of Physicians of Philadelphia*, 1903, p. 34.

Chance's communication is based mainly upon observations made during an epidemic of small-pox that visited Philadelphia in the years 1901 and 1902. Amongst 2,000 cases at the Municipal Hospital, there were 36 instances of corneal ulcer, pustulation of the lid borders, conjunctivitis, and 10 cases of iritis. Conjunctivitis is common, develops about the fifth day of the eruption, and is usually mild and of brief duration. Its intensity, however, is related directly to that of the pustular eruption in general and to that of the eruption on the face and eyelids in particular. The bacteriological examination of the conjunctival secretions showed the presence of no specific or hitherto undescribed organisms, but there were present in abundance staphylococci, streptococci, and pneumococci. Pustules upon the conjunctiva were noted in two or three instances only. They were therefore rare. They much resemble ordinary phlyctenulæ in appearance and course. Keratitis may be mild or destructive. In severe cases of confluent variola, rapid destruction of the cornea may take place as early as the eighth day. In some of the cases both eyes are affected, and this is usually a forerunner of fatal collapse. Chance observed two cases of parenchymatous keratitis after variola. Serous iritis, as already noted, was observed in 10 cases. The condition was especially prevalent in hæmorrhagic variola. Choroiditis, revealed by the presence of floating capacities in the vitreous, was seen once. Circumscribed choroidal inflammation, posterior polar cataract, glaucoma, retinitis, retinal hæmorrhages, or neuritis was not met with amongst Chance's series of about 2,000 cases of variola.

Gilfillan, W. Whitehead.—A case of panophthalmitis in typhoid fever. *Medical News*, July 25th, 1903.

Less than a dozen cases, according to Gilfillan, have been reported of panophthalmitis complicating typhoid fever. Gilfillan's patient, a man, 31 years of age, was admitted with typhoid of two weeks' duration. His left eye had been blinded by an injury sustained seventeen years previously. On the twenty-sixth day of the fever, the conjunctiva of the blind eye was found to be swollen, and later in the course of the day, the lids were œdematous, the cornea dull, and the eyeball markedly protruded. Six days later, pus burst through the anterior sclera, and five days afterwards the eyeball began to shrink. In the sequel phthisis bulbi developed.

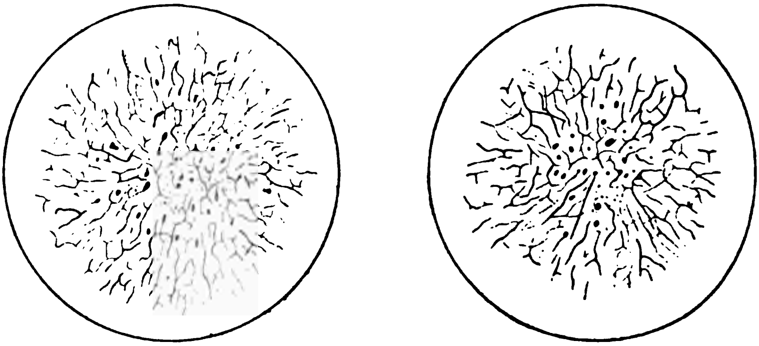
Salomonsohn, H.—Recurrent vitreous hæmorrhage through Periphlebitis. (Rezidivierende Glaskörperblutung durch Periphlebitis.) *Klin. Monatsbl. f. Augenheilkunde*, J. XLI, B. II, p. 119.

A man, 35 years of age, came under Salomonsohn's notice suffering from copious hæmorrhage into the vitreous humour of the left eye. Ten years previously, there had been a similar occurrence, and three years previously the patient had been troubled with profuse bleeding from the nose. When the fundus was examined after the vitreous had cleared, connective tissue and neovascular formations on some of the retinal veins and disseminated black spots in the retina were found. Some nine months after the patient first presented himself, the left eye was again blinded by hæmorrhage into the vitreous humour. MAX P.

Elliott, Captain R. H.—Some modern views on Primary Glaucoma. *Indian Medical Gazette, July,* 1903.

Fehr.—A case of trellis-like opacities of the Cornea. (Ein Fall von gittriger Hornhautrübung.) *Centralb. für prak. Augenh.,* Juni, 1904.

Fehr describes this disease as a very chronic one, showing a definite tendency to run in families, and characterised by the presence of tiny grey spots in the centre of the cornea and a trellis-like system of fine stripes and lines which, in the beginning, are transparent and which always leave the margin of the cornea free. The spots and lines are raised above the surface. Inflammation is either entirely absent or plays a subordinate part. The disease usually begins between 10 and 20 years of age, and tends to progress slowly, leading to serious disturbance of vision. Histologically, there is found a hyaline degeneration of the superficial layers of the cornea and of Bowman's membrane, with a secondary involvement of the surface epithelium. The etiology is unknown, and treatment powerless. The author's case was that of a student, *æt.* 24 years, who came for the first time 1½ years ago. He had always seen well, and never had any eye trouble. In the course of the four preceding years he had noticed a diminution of vision, particularly of the left eye. The eyes were quite normal in appearance, except for the corneæ, both of which showed a diffuse haze. If examined with a powerful



Left Eye. Right Eye.

lens, this haze was seen to resolve itself into a network of lines and stripes, in the midst of which were fine gray dots and spots (*see* Figs.) Over the spots the epithelium was not raised, while over the lines it was. There were no corneal blood vessels ; sensibility normal. V., with correction, R. = $\frac{5}{7}$; L. = $\frac{5}{18}$. Field of vision normal, as well as iris, pupil, and fundus. The etiology in this case was quite undetermined. The patient was a powerful young man, well nourished, with all his organs and functions normal. But there seems no doubt that this case is also one of a family group, for although none of the members of his family were examined, the patient says that his mother and two of her brothers and some of their children are all troubled with their eyes, and have poor vision. Treatment consisted of cold applications, yellow oxide of mercury ointment, and the local use of calomel, under which the disease has remained stationary. This, however, is not sufficient to warrant a favourable prognosis. A. LEVY.

IV.—THERAPEUTICS, OPERATIONS, INSTRUMENTS, AND APPLIANCES.

Müller, Leopold.—A new operation for detachment of the retina. (Eine neue operative Behandlung der Netzhautabhebung.) *Klin. Monatsbl. f. Augenheilkunde*, 1903, I, p. 459.

This operation has been performed by Müller in seven cases of ablatio retinæ. The first step is the temporary resection of the outer wall of the orbit, after Krönlein. The external rectus muscle and a part of the inferior oblique are then separated. Müller next cuts out of the sclerotic a strip, 8mm. to 10mm. wide and 20mm. long, without injuring the choroid. The front edge of the excised strip lies 1mm. to 2mm. behind the attachment of the musc. rect. ext. The incision in the sclera is drawn together by 5 (silk) stitches. A previous puncture in the lower angle of the wound allowed the escape of the sub-retinal fluid. The object of the operation is to lessen the tension of the retina and more especially of the choroid. Müller believes, in opposition to Leber and Raehlmann, that the cause of detachment of the retina is to be found in the choroid. He supposes that the last-named discharges an exudation or transudation which raises the retina ; the causes of other detachments are also to be found in the vitreous body. Müller considers his operation also to be advisable in cases of extreme myopia, in which the macula is in danger of blindness. (*See* OPHTHALMOSCOPE, Vol. I. (1903), p. 60.)

A. BIRCH-HIRSCHFELD.

Galezowski.—Treatment of trachoma by the cyanide of copper. (Traitement du trachome granuleux par le cyanure de cuivre.) *Acad. de méd.*, 19 mai, 1903, and *Rev. générale d'ophtalmologie*, 30 avril, 1904.

By the employment of this new remedy, namely, copper cyanide, Galezowski has obtained good results in cases of trachoma.

Hirschberg, J.—The treatment of Myopia. (Die Behandlung der Kurzsichtigkeit.) *Die Deutsche Klinik in Vorlesungen*, 1904.

In this lecture Hirschberg does not confine himself to the mere treatment of myopia but discusses also its pathology and complications. He regards the common form of myopia as due to an hereditary predisposition of the eyes to become lengthened under the influence of close work, and holds that the increase of myopia can and should be checked by the application of hygienic principles to school-life. He does not recognise the existence of essentially different species of axis myopia. In Hirschberg's opinion, spasm of accommodation seldom, if ever, occurs in myopic eyes, so that there is little need for the employment of mydriatics. Full correction for distance may be given in myopia of from 0.75 D. to 3 D. Myopia of higher degree requires full or nearly full correction for distance and weaker glasses for near work, but lenses stronger than 9 D. should not be worn constantly under any circumstances. Since changes in the fundus and vitreous are not of inflammatory origin, the author condemns their treatment by bleeding. He recommends instead rest of the eyes, administration of potassium iodide, tonics, and diaphoretic agents, and, finally, the subconjunctival injection of weak saline solutions. However, he does not think very highly of the last. Detachment of the retina should be treated on the same lines, but if complete rest and other measures have proved unsuccessful, the sclera may be punctured. Hirschberg is not enthusiastic with regard to the treatment of myopia by removal of the crystalline lens, and advises that cases for this operation should be carefully selected. Of special interest are Hirschberg's contributions to glaucoma in myopic eyes, the so-called *glaucoma myopicum*. The clinical form under which it occurs is that of chronic or simple glaucoma, and iridectomy has proved beneficial in all cases where true posterior staphyloma of the sclera was absent. C. MARKUS.

Benson, Arthur H.—The Surgical Treatment of Short Sight. *Medical Press and Circular*, June 1st, 1904.

Fukala's operation of removing the crystalline lens in cases of high myopia has, in Benson's words, "come to stay." Ostwalt's rule for calculating the diminution of the myopia after operation is quoted with approval. It is, as readers will recollect, to take half the myopia in dioptres and from this to subtract +11 D. Benson has operated upon eleven patients, whose ages ranged from 10 to 24 years. The amount of myopia varied from 10 D. to 22 D. In all the cases except one the corrected vision was measurably improved by the operation. Three of Benson's cases retained low degrees of myopia; four were hypermetropic; one was emmetropic; and in three the refraction was not recorded.

Snell, Simeon.—On removal of the crystalline lens in high degrees of Myopia, as illustrated in sixty cases. *British Medical Journal*, February 27th, 1904.

Snell believes that, within defined limits, the removal of the crystalline lens for high myopia may now be regarded as a recognised and valuable method of treatment. He has operated in this way upon 59 eyes in 40 patients (21 one eye and 19 both eyes). In general, he prefers to operate upon one eye, the worst, only. A single patient in his series was over forty years of age. The amount of myopia ranged from 10 D. to 28 D. The author thinks, however, that operation should usually be limited to cases with myopia of 14 D. and upwards. With regard to *technique*, the transparent lens is first needled, and at the end of a week, more or less, the broken-up fragments are extracted through an incision in the cornea, the curette being sometimes used to facilitate expulsion. "The pupil has previously been dilated with atropine, and by keeping the situation of the corneal wound inside the limit to which it dilates, the danger of entanglement of the iris is materially lessened." A further needling is now and then called for. Secondary glaucoma came on in a few of Snell's cases, either after the first needling, or else after the pupil had been freed or nearly so of lens matter. The former cases were met by removing the lens detritus, and the latter by tapping the anterior chamber. Two instances of post-operative detachment of the retina occurred amongst the 59 operations. Snell comments, as other surgeons have done, upon the gratitude displayed by patients upon whom removal of the lens has been performed for the relief of high myopia.

Valois, Georges.—Two cases of sympathetic ophthalmia. (Deux cas d'ophtalmie sympathique.) *Recueil d'ophtalmologie*, 1903, p. 184.

Valois describes two cases of sympathetic ophthalmitis successfully treated by injecting solution of mercury cyanide into the cellular tissue of the orbit of the eye that had been enucleated. The operation was painful, and produced œdema of the neighbouring parts. The result, however, was prompt as regards improvement in the sight of the sympathising eye.

H. DE V.

Cange, A., and Bentami.—Upon the treatment of total Trichiasis. (Sur le traitement du trichiasis total.) *Archives d'ophtalmologie*, avril, 1904.

Cange and Bentami report five cases of trichiasis cured by a slight modification of Dianoux's well-known operation.

Oliver, Charles A.—The so-called mydriatics: their actions, their uses, and their dangers in ophthalmology. *Annals of Ophthalmology*, October, 1903.

Oliver discusses at length such mydriatics as holocain, cocain, eucain, euphthalmin, homatropine, mydrin, atropin, scopalamin, daturin, hyoscyamin, hyoscin, and duboisin. No mention is made of the two latest mydriatics, namely, eumydrin and atropine methylbromate. Oliver points out that gross inflammation of the iris and ciliary body present three factors inimical to the usefulness of all the cycloplegics, as under: (1) the corneal channels, as a rule, are so infiltrated that they will not enter or permit the entrance of the drugs; (2) owing to changes in the specific gravity of the aqueous humour and the circulation of lymph, proper endosmosis fails to take place; and (3) the inflamed tissues are so congested and rigid that the drugs cannot act energetically upon them.

Loewy, A., and Müller, F.—The anæsthetic action of Yohimbin (Spiegel). *Münchener Medizinische Wochenschr.*, April 14, 1903.

The authors report their experiments concerning the anæsthetic action of yohimbin on mucous membrane, and on motor and sensory nerves, with especial references to changes in irritability and conductivity. Loewy and Müller employed 10 per cent. solution of the drug in sterile water or physiological salt solution. Three to five minutes after its instillation into the conjunctival sac, complete anæsthesia of the cornea and conjunctiva was noted. It did not dilate the pupil nor affect accommodation in the least; other mucous membranes were affected similarly. When applied directly to nerves, it weakened and even abolished their irritability and conductivity; when applied to the special nerve-endings of mucous membrane, it produced anæsthesia. These results lasted but a short time, normal conditions reappearing very soon. (*See* OPHTHALMOSCOPE, January, 1904, p. 29.)

Erwin, A. J.—How shall we open the capsule? *Ophthalmic Record*, August, 1903.

Erwin makes with the cataract knife a corneal section and a rectangular flap from the capsule of the crystalline lens at one and the same time. This renders any use of the cystitome unnecessary.

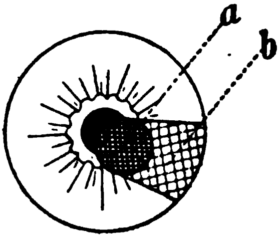
Doyne, Robert W.—The use of retinal extract in atrophic retinæ. *Brit. Med. Journal*, September 26, 1903. (*See* OPHTHALMOSCOPE, Vol. I, 1903, p. 105.)

Morton, A. Stanford.—Notes on operations for conical cornea. *Brit. Med. Journal*, September 26, 1903.

According to Morton, the operations chiefly in use to flatten the protrusion in conical cornea are three in number: 1. cauterisation without perforation; 2. cauterisation with perforation; and 3. excision of the apex of the cone. In the present communication the author gives details of the patients he has operated on, and in doing so endeavours to show (*a*) the vision without and with glasses before operation; (*b*) the same details after operation; (*c*) the permanence or otherwise of the result; and (*d*) the complications attending operation. Most of his cases were treated by excising an elliptical piece from the apex of the cone. Details of operation are as follows: the apex of the cone is transfixed with a long, narrow, and stiff Graefe knife, the edge of which is then turned forward and a little to the right. The knife is pushed steadily onwards until it cuts its way out through the cornea to the right of the apex of the cone, thus forming one edge of the elliptical piece to be excised. The flap is seized with fine forceps, and the elliptical excision is completed with the knife. The dangers which attend this operation are: (1) anterior synechia, (2) iritis and posterior synechia, (3) increased tension, and (4) hypopyon. Much the same risks are present in cauterisation, with or without perforation of the cornea. Morton's statistics (evidently collected with great care) cannot well be abstracted, and those interested in the subject must consult the original communication.

Elschnig.—On the treatment of Conical Cornea. (Zur Therapie des Keratokonus.) *Wiener Klinische Rundschau*, 15 Mai, 1904.

Professor Elschnig, of Vienna, recommends a modified method of cauterisation in conical cornea with a view to secure vascularisation of the scar, which thereby becomes denser, and in that way facilitates flattening of the cone. The operation consists in deep cauterisation of the apex of the cone (*see* Fig., a), together with a superficial cauterisation of a band of cornea lying between the apex and the adjoining limbus (*see* Fig., b). Vessels grow along this corneal sector into the scar, which should be so placed as to leave part of the pupil free, a thing that can readily be done, since the apex of the cone, as a rule, does not coincide with the centre of the pupil.



(a) Cauterised apex.
(b) Sector, superficially cauterised.

Sight may be still further improved by tattooing the resulting cicatrix. Whilst Elschnig's plan saves the repeated application of the cautery, it shares with other methods of cauterisation the advantage of being practically devoid of risk. C. MARKUS.

REVIEWS.

Slight errors of refraction and their influence on the nervous system. By C. E. PRONGER, F.R.C.S. ACKRILL, Harrogate, 1903.

A pamphlet of a type now familiar to all ophthalmic surgeons, dealing with errors of refraction as a cause of many things beside headache, such as insomnia, vertigo, mental depression, and so forth.

Bulletin de la Société Belge d'ophtalmologie, No. 16. Bruxelles, mai, 1904.

This small volume contains the communications made at the sixteenth meeting of the Belgian Society of Ophthalmology on the 24th April, 1904. It has been published with commendable promptitude. It includes the report of a discussion upon the estimation of damage caused by accidents to workmen, which was opened by Dr. J. de Lantsheere, and discussed by MM. Gauthier, Van der Bergh, and Venneman. The volume, in addition, includes six articles by Bettremieux, Rogman, Marbaix, Venneman, Tacke, and Rogman. All of these will be abstracted in our pages in due course.

E. Merck's Annual Reports, Vol. XVII., 1903.—Darmstadt, May, 1904.

Merck's report for the year 1903 has just reached us. It is indispensable to all who are interested in the progress of pharmaceutical chemistry and therapeutics. Among the newer remedies appertaining more particularly to ophthalmology we find mention made of acoine, airol, aceto-tartrate of alumina, acetate of silver, collargol, silver fluoride, aspirin, methylbromide of atropine, brucine, codeine hydrochlorate, cuprol, cuprocitrol, dionin, eumydrin, hermophenyl, sublamin, jequiritol, lithia benzoate, suprarenine, pyoktanin, thiosinamine, peroxide of hydrogen, and yohimbine. Merck's useful publication may be obtained *gratis* by applying to the Darmstadt house or to the agents in London (16, Jewry Street, E.C.) or elsewhere.

The Pathological Histology of the Eye.—By PROFESSOR O. PARISOTTI. With twenty plates drawn after nature. Paris: BAILLIÈRE ET FILS, 19, Rue Hautefeuille, 1904.

Parisotti of Rome, has recently issued an atlas and French text descriptive of the pathological histology of the eye. Most of the figures are in colour, but although effective, some of them might be improved from a purely artistic standpoint. The text commences by a brief account of histological *technique* dealing with the fixation, embedding, cutting, staining, and mounting of the specimens. The succeeding chapters take up in turn the various affections of the eyelids, conjunctiva, lacrymal apparatus, cornea, iris, ciliary body, choroid, retina, optic nerve, sclera, vitreous body, and crystalline lens, while the last two are devoted respectively to sympathetic ophthalmitis and glaucoma. For the most part, Parisotti's descriptions are brief and very much to the point. Thus, the histology of sympathetic disease is summed up in two pages, and that of glaucoma occupies about the same space. But a good deal of attention is devoted to certain diseases, notably cysts of the eyelids, chalazion, pterygitum, retinitis pigmentosa, epithelioma of the conjunctiva and cornea, warts of the cornea, sarcoma of the uveal tract, and glioma of the retina. The text extends to 224 pages.

Trachoma (Granular Conjunctivitis).—By ROBERT REID RENTOUL, M.D. Published by CORNISH & SONS, 37, Lord Street, Liverpool, 1904. Price 2s. nett.

This *brochure* is evidently the work of one who has had little or no experience of the disease he sets out to describe. Under these circumstances readers will not be surprised to learn that the book is in the nature of a compilation, pure and simple.

Its purpose, however, is writ large. It is to popularise a knowledge of trachoma, with a view to the possibility of that disorder being included in the "infectious and loathsome diseases" which the Royal Commission on Alien Immigration have lately (1903) recommended should be excluded from our shores. Whilst we are in sympathy with Dr. Rentoul's aim, we cannot refrain from expressing a wish that the book had been more carefully prepared. It includes several statements to which exception might fairly be taken by those whose knowledge of trachoma is not of a wholly theoretical nature. For example, it is quaint to hear that "some examiners use a separate piece of wood for turning the eyelids up and down," or to be told that contaminated instruments should be disinfected in corrosive sublimate. Dr. Rentoul states that true granulations are first transparent, "their contents fluid, and escaping when the granulation is punctured." This opinion is not in accordance with the generally accepted view as to the pathology of the trachoma-body. Again, the droop of the upper lid present in many cases of trachoma is ascribed by the author to "a partial paralysis of the elevator muscle of the upper lid." Moreover, the pages of the pamphlet abound in misprints, amongst the more irritating of which may be noticed "neanotorum" for "neonatorum" (p. 11), "carnucle" for "caruncle" (p. 12, 17, and 19), "narvus" for "nævus" (p. 20), "Mangus" for "Magnus" (p. 22).

Atlas und Grundriss der Lehre von den Augenoperationen.—By PROFESSOR DR. O. HAAB, of Zürich. Published by J. F. LEHMANN, München, 1904. Price 10 marks.

Our distinguished correspondent, Professor Haab, of Zürich, has recently issued, through the publishing house of Lehmann, of Munich, an atlas and text of operations upon the eye. The volume (which is of typically Teutonic appearance) is illustrated by thirty coloured plates and upwards of one hundred and fifty pictures in black and white by Herr Fink. The coloured plates are most effective, nay, sometimes startling in their realistic detail.

The first seventy pages are devoted to a very practical account of the general arrangements for operation, including operating rooms, general and local narcosis, sterilisation and disinfection, antisepsis and asepsis, dressings, bandages, and instruments. Haab is of opinion that the use of chloroform, ether, ethyl bromide, and ethyl chloride for the induction of general narcosis should be confined to the narrowest possible limits in eye work, principally on account of the danger of the two anæsthetics first mentioned. As he points out, the deep anæsthesia required for eye operations is in itself a danger.

He dwells upon the risks inseparable from enlarged thymus and lymph hyperplasia, but he does not mention the poisonous after-effects of chloroform in children, so ably described by Leonard G. Guthrie, Harold Stiles, and other observers. So impressed is Haab with the dangers of general anæsthesia that in enucleation of the eyeball he avoids dividing the optic and ciliary nerves until the patient shows signs of recovery from anæsthesia. He has several times seen shock and severe collapse follow the neglect of this precaution. For the treatment of collapse Haab gives a multiplicity of directions, including such novelties as rhythmic massage of the heart and the injection of camphorated oil. With regard to local narcosis, Haab for the more superficial operations employs a 2% to 5% aqueous solution of cocaine. Prior to iridectomy, however, he instils the stronger solution every three minutes for half an hour. For squint he injects a few drops of the weaker solution beneath the conjunctiva, and finds that the operation may be done without pain five minutes later. In suitable cases he performs enucleation by injecting a mixture of cocaine and eucaine—first, into the insertions of the recti, and, after division of those muscles, into the deeper parts about the posterior pole of the eye. The same mixture is employed in extirpation of the lacrymal sac. Adrenaline (Takamine), both as an adjuvant to cocaine and as a hæmostatic, meets with Haab's enthusiastic approval. The dangers of infection by contaminated eyedrops is insisted upon, and sterilisation by boiling recommended. This may be best effected, in Haab's experience, by the use of the drop bottle designed by Sidler-Huguenin, which differs from Stroschein's well-known flask in two main particulars—first, in having a much wider mouth, and, secondly, in its glass pipette being coiled. The author's remarks upon intra-ocular disinfection are interesting. He employs a little rod (*Stäbchen*), 5 mm. to 7 mm. long, composed of iodoform. This is introduced into the anterior or the posterior chamber, as the case may be, and becomes slowly disintegrated. Elaborate details of *technique* are given, and a coloured plate is added to emphasise the information. The iodoform treatment, according to Haab, is especially suitable for infective wounds, traumatic or operative.

The remainder of the book, amounting to 314 pages, is devoted to a description of the various operations. The latter are classified under four heads, *viz.*: (1) intra-ocular operations; (2) operations on the muscles and orbit, and enucleation; (3) operations on the lids and conjunctiva; and (4) operations on the lacrymal apparatus. That the information is up-to-date may be inferred from the fact that such novel or recent procedures as Deutschmann's scleral puncture, Müller's scleral excision in retinal detachment, Worth's advancement for squint, Krönlein's osteo-plastic resection of the outer wall of the orbit, and Axenfeld's method of removing the lacrymal sac, all receive full attention. On the other hand, we miss any reference to peritomy, an old operation that has gained a fresh lease of life since the appearance of Teale's paper in the *Transactions of the Ophthalmological Society* for 1901.

In short, Haab's volume (which we trust may speedily be made available for English readers) is one that we can thoroughly recommend. It fills a distinct gap in ophthalmological literature.

CORRESPONDENCE.

While the *Ophthalmoscope* will at all times welcome correspondence from its readers, the Editors do not hold themselves responsible for any views expressed in this column.]

AN INTERNATIONAL SOCIETY OF OPHTHALMOLOGY: A SUGGESTION.

Sirs,—The nine international Congresses of Ophthalmology are monuments which record for all time the steps which our science has made and the success which it has achieved: whilst a comparison of their *Transactions*, from the first volume in 1857 to the ninth in 1899, shows how rapid the march of knowledge has been. Nation meets nation in a rivalry which knows no bitterness, in a contest which has no venom, and an object-lesson is given to the universe which has far wider issues for good than even the advancement of our enthralling speciality. For when all men's good is each man's rule, we may look for that federation of the world of which poets have dreamed.

Without further introduction I come to the object of this letter. Cannot these Congresses be banded together in an unbroken continuity, the intervals being bridged by an International Society of Ophthalmology? There need be no change in the routine of our meetings, but every nationality with its own executive, always in touch one with the other, and always working in unison, would be ready, when its turn came, to prepare for a Congress For a small annual subscription this world's society would issue to every member annually a Report, printed in his own language, on the progress of Ophthalmology in all parts of the world, with monographs on special subjects by leading authorities. Members of such a society, travelling in foreign countries, would have a bond of union which would give them facilities for seeing the work of their *confrères* with but slight formalities, and an *entente cordiale* would be established which perhaps could be formed in no better way.

Such, briefly, is the outline of the suggestion which I earnestly make for the consideration of my colleagues, the members of that International Congress of Ophthalmology which meets so appropriately under the Red-cross flag of Switzerland in September next.

I am, Sirs,
Yours faithfully,
W. M. BEAUMONT.

4, Gay Street, Bath,
July, 1904.

NOTES AND ECHOES.

Ophthalmological Society.

THE following officers for the session 1904-1905 were elected at the annual general meeting of the Ophthalmological Society on July 8th, 1904. President: Mr. John Tweedy. Vice-Presidents: Sir Anderson Critchett, Dr. F. W. Mott, Dr. C. E. Beevor, and Messrs. A. W. Sandford, C. E. Glascott, A. S. Morton, C. Oldham, A. Q. Silcock, and R. W. Doyne, Treasurer: Dr. John Abercrombie. Librarian: Mr. W. Adams Frost. Council: Dr. F. E. Batten, and Messrs. A. McGillivray, L. Werner, H. W. Dodd, N. M. MacLehose, E. C. Green, S. Walker, S. Stephenson, E. E. Maddox, S. J. Taylor, J. H. Fisher, and Dr. W. A. Turner. Secretaries: Dr. J. S. Risien Russell and Mr. C. Devereux Marshall.

* * * *

Sight-testing by Spectacle Makers.

At the same meeting, the following Report of the Council on sight-testing by opticians was adopted. There was a good deal of discussion, and one or two slight alterations were made in the wording of the document. It was decided to send copies of the report to the medical press and to the leading daily papers. Can we hope that the publication of this authoritative document will enlighten the public as to the true state of affairs anent the prescription of spectacles by opticians and other non-medical persons?

* * * *

Report on Sight-testing by Spectacle Makers.

"THE Ophthalmological Society of the United Kingdom, having had its attention called to the fact that the Worshipful Company of Spectacle Makers proposes to include the subject of sight-testing in the examination for its diploma, and to give certificates of efficiency therein, wishes to express its opinion that, while approving of any measures which tend to increase the efficiency of opticians in their technical work, it considers that it would be misleading and dangerous to the public to countenance any proposal to certify as competent to advise and prescribe for defects of vision anyone who has not had an efficient medical and surgical training.

A diploma such as the Worshipful Company of Spectacle Makers proposes to grant may lead the public to believe that its possessor is competent to diagnose and treat diseases of the eye, and thus grave consequences might follow.

Errors of refraction often occur in association with diseases of the eye. The mere correction of the former by means of spectacles would ignore a condition which might destroy sight, or even leave the life of the patient in danger.

Moreover, many errors of refraction can only be accurately measured after the local use of a drug which should only be employed or prescribed by a medical man, since its indiscriminate use is calculated to excite one of the gravest diseases to which the eye is liable.

Finally, on general grounds it is undesirable and dangerous to encourage the public in the belief that affections of any organ of the body can be safely treated by anyone unacquainted with its anatomy and physiology, and with the various morbid conditions to which it is liable."

JOHN TWEEDY.
(*President.*)

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Ophthalmological Journals.

WE welcome the recent appearance of a new French monthly journal, *L'Ophtalmologie provinciale*, emanating from Tours, and edited by Drs. Chevallier, Cosse, and Motais. Despite the half-dozen special journals of the kind published in France, we entertain no doubt that our contemporary will speedily make a place for itself.

The *Annals of Ophthalmology*, the well-known periodical hailing from St. Louis, Mo., appears to have cast its lot in troubled waters. Owing to a difference of opinion that has arisen between the editorial staff, on the one hand, and the publisher, on the other—not altogether unconnected, so it is said, with the tardiness of publication for which the *Annals* has long been noted—the managing editor, Dr. Würdemann, has issued a kind of ultimatum, from which we gather that all members of the editorial staff have severed their connection with the *Annals*. That is not all, nor is it by any means the worst. It is proposed to publish a new quarterly journal "on the same general plan" to be named "Ophthalmology," the first number of which is to appear in October next. The price of the journal is to be five dollars per annum, and its editors are Drs. Würdemann and Nelson M. Black. It is to be "owned, edited, and published by and for the medical profession from the American Medical Association Press." Altogether, à pretty quarrel as it stands!

* * * *

"X-ray Eyes."

The *Daily Express* has constituted itself a kind of pioneer in the discovery of medical marvels. One of its latest achievements has been to unearth a case of abnormal vision in an American youth. On this side of the Atlantic we are familiar with the figure of speech that describes any particularly smart citizen as "being able to see through a brick wall." That feat of vision, however, is nothing to the "X-ray" eyes of little Leo Brett, the son of a Boston surgeon, who from the age of twenty months (vide *Express*) has been endowed with the wondrous gift of looking through human bodies and closed doors. This miraculous faculty was first discovered by the child detecting the presence of a skeleton concealed, we presume solely for professional purposes, in his father's cupboard. One day, a nurse in Boston Union General Hospital, stopped the child, who was walking through the wards at his father's side, and asked him to look through her, as she was not feeling well. Leo said he saw a sore spot in her lungs "which looked as if a mouse had gnawn it." In three months the poor woman was dead with phthisis. After this the second sight of the Highlanders becomes a tame and common-place performance. The Boston correspondent of the *Express* states that Leo's case has been investigated by Dr. Royce D. Fry.

* * * *

Deaths.

We regret to announce the death, at Naples, on May 12, 1904, of Professor Carl de Vincentiis, at the comparatively early age of 55 years, after a distinguished career as one of the leading ophthalmic surgeons of Italy. His professional life began in 1877 as professor extraordinary at Palermo. Ten years later he succeeded Professor Castorini in the chair of ophthalmology at the University of Naples, where he remained until his death. His more important monographs include studies upon leprosy of the eye, chalazion, intra-ocular cysticercus, aneurism of the orbit, and xanthoma of the eyelids. Death has been busy nearer our own shores, for the death is announced of Dr. William McKeown, of Belfast, surgeon to the Ulster Eye, Ear, and Throat Hospital, and lecturer on ophthalmology in Queen's College, Belfast. His name is familiar to every ophthalmic surgeon in connection with his work upon unripe cataract and its successful treatment by operation. He was one of the first surgeons in Great Britain to employ the electric magnet for extracting fragments of metal from the eye. Dr. McKeown, who was a native of Ballyclare, County Antrim, was sixty years of age at the time of his death. His energies were not devoted to ophthalmology alone, for amid the cares of a busy professional life he found time to study the educational question, upon which he held advanced views.

* * * *

Section of Ophthalmology, Oxford, 1904.

MEMBERS may be glad to learn that a special museum of things likely to interest ophthalmic surgeons has been arranged in Keble College, where, it will be remembered, the sectional meetings are to be held. An attractive feature will be found in the rare eye cases which will be in waiting at the Eye Hospital, a few minutes' walk only from the College. Considerable pains have been taken by Mr. F. M. Ogilvie, one of the Vice-Presidents of the section, to get together a number of cases for the inspection of members attending the meeting.

* * * *

Appointments.

OUR congratulations are offered to Sir Anderson Critchett and Mr. Priestley Smith, upon their election as honorary members of the Gesellschaft der Aerzte of Vienna. Mr. J. T. Thompson has resigned the ophthalmic surgeoncy to the Cardiff Infirmary, and has been succeeded in the office by Mr. H. Collen Ensor.

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THE

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ORIGINAL COMMUNICATIONS.

I. OPAQUE NERVE FIBRES EXTENDING OVER A LARGE AREA OF THE FUNDUS, INCLUDING THE MACULA*

II. PATCHES OF OPAQUE NERVE FIBRES SEPARATED FROM THE OPTIC DISC.

BY

C. O. HAWTHORNE, M.D., M.R.C.P.

EXAMINER IN MEDICINE IN THE UNIVERSITY OF ABERDEEN; PHYSICIAN TO THE CENTRAL LONDON OPHTHALMIC HOSPITAL; ASSISTANT PHYSICIAN TO THE NORTH WEST LONDON AND ROYAL WATERLOO HOSPITALS.

The discovery of opaque nerve fibres in the fundus oculi, although hardly a frequent ophthalmoscopic experience, occurs sufficiently often to merit in ordinary circumstances no more than a mere word of recognition. The percentage of such cases in relation to the total number of eyes examined is doubtless a very small one, but a routine use of the ophthalmoscope extending over a considerable number of patients can scarcely fail to detect an occasional example. And as the condition, with rare exceptions, has no practical effect on vision, the opportunity is just as likely to occur to the physician or other practitioner as it is to the ophthalmic surgeon.

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* This patient was shown at a meeting of the *Society for the Study of Disease in Children* in Session, 1903-4.

As is well known, the usual arrangement of opaque nerve fibres in the fundus is in the form of one or more lustrous white patches jutting outwards from the margin of the disc. Possibly by a very critical scrutiny of the visual field it can be shown in some cases that there is a corresponding extension of the normal area of the "blind spot," but otherwise such patches neither produce a subjective sense of impaired vision nor do they qualify the ordinary tests of the visual acuity. Exceptions to the propositions just stated are so uncommon that the cases here figured appear to be worthy of record. In the first (Fig. 1) it will be observed that the opaque nerve fibres are not restricted to one or more isolated patches on the disc circumference, but that, on the contrary, they completely encircle the disc. Further, instead, as is usual, of extending over the fundus from the disc margin for a short distance only, say a disc's breadth or less, the opaque fibres here thrust themselves over so large an area that they form by far the most conspicuous feature in the ophthalmoscopic picture. Especially s this unusual extension pronounced to the outer side of the disc. So extreme is the development in this direction that the opaque fibres are continued over and conceal the site of the macula and a considerable portion of the fundus beyond this. It is of interest to observe that in spite of this highly exaggerated provision of a medullated sheath to the nerve fibres of the retina, the disc itself, except for a small part of the lower and outer quadrant, is not involved in the process. Another detail worthy of remark is the absence from the opaque area in the macular region of the fibrillated lustrous appearance which is a characteristic of the familiar small patches attached to the disc margin and is also a feature of other portions of the present picture. The macular portion of the opaque area has, on the contrary, rather a "dead" white character and some apparent irregularity of the surface. Of its true nature, however, there can be no doubt. This is suggested by the distinctive character of other portions of the opaque area, by its own relationship to the retinal vessels, and by the striated appearance of its margins. The patient—a girl of moderately dark complexion—had no appreciable structural peculiarity in

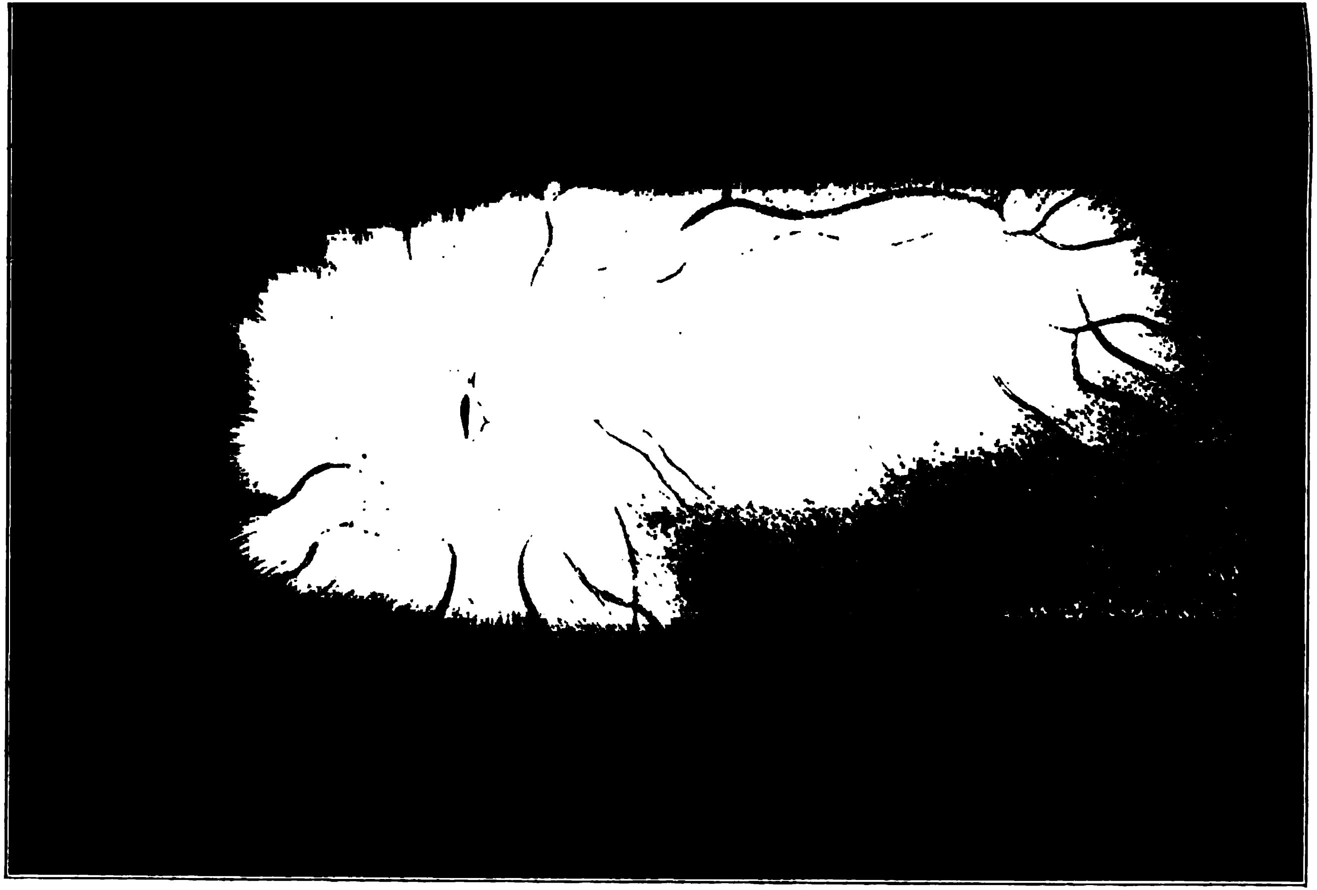

Fig. 1.—Opaque Nerve Fibres extending over a Large Area of the Fundus, including the Macula. (Dr. C. O. Hawthorne's case.)

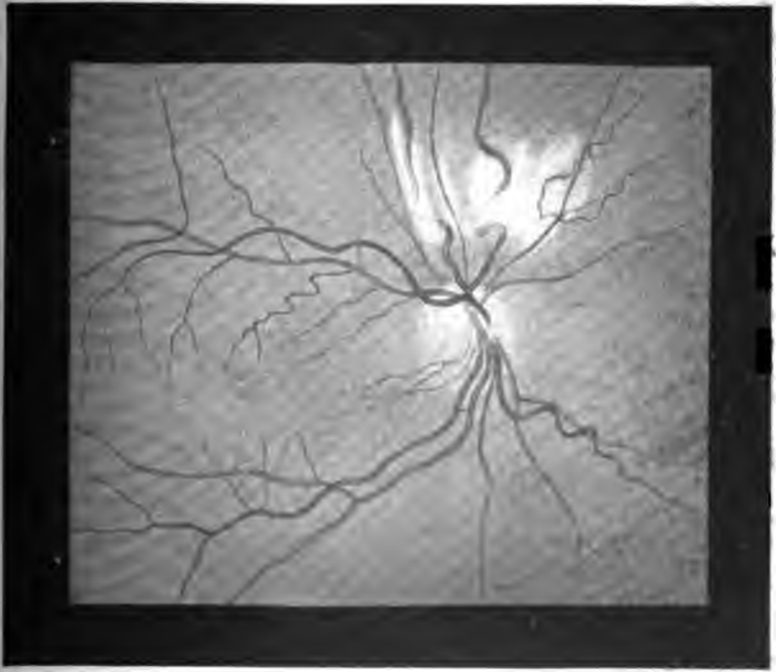

FIG. 2.—Patches of Opaque Nerve Fibres separated from the Optic Disc.
(Dr. C. O. Hawthorne's case.)

any other part of the body and the other (right) eye, except for a slight degree of hypermetropic astigmatism, was in no respect noteworthy. The affected (left) eye, but for the opaque nerve fibres as above described, appeared normal, although with it there was not even perception of light, and the pupil light-response was very defective. The eye was not divergent and there was no nystagmus.

Examples of such an extensive development of opaque nerve fibres as is seen in the case here illustrated (Fig. 1) would appear to be extremely rare. Some years ago Mr. Hartridge* recorded an instance in which the disc was completely surrounded by opaque nerve fibres with, in addition, a relatively narrow opaque band passing outwards and somewhat downwards for a considerable distance across the fundus. In Jaeger's Atlas also there is a somewhat similar illustration. The instance now reported is more extreme than either of these both as regards the depth of the investment of the disc and the extent of the invasion of the macular and neighbouring parts of the fundus. It has also this special interest, that the patient's inability to see with the affected eye seems to be entirely due to the extraordinary development of opaque nerve fibres.

In the second figure (Fig. 2) the peculiarity is the existence of two groups of opaque nerve fibres, not attached, as is usual, to the margin of the disc, but separated from this by a clear interval of normal fundus. Such an arrangement is represented in some of the ophthalmoscopic atlases in conjunction with patches having the more common situation. But in the present case the only existing patches are the two placed in the fundus at some distance from the disc. The patient was a youth of very fair complexion and reddish hair; his vision was normal, and neither in the eyes nor in any other part of his body was there any other structural abnormality. A case showing a single patch of opaque nerve fibres situated some distance to the inner side of the disc is figured by Mr. Work Dodd in the *Transactions of the Ophthalmological Society* (Vol. XX), and similar cases have been recorded by Mr. Adams Frost, Mr. E. Nettleship, Mr. Treacher Collins, and Mr. Sydney Stephenson.

The Editors have kindly directed my attention to an annotation which appeared in the January number of THE OPHTHALMOSCOPE (p. 14), and in which the exceptional character of the facts represented in Fig. 2 is emphasised. Casper, as quoted in this annotation, found a similar distribution of opaque nerve fibres in four instances only among 14,000 patients.

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* *Transactions of the Ophthalmological Society* (1885) Vol. V.

THE OPERATIVE TREATMENT OF ENTROPION AND TRICHIASIS.

BY

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AND

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ASSISTANT SURGEON TO THE VICTORIAN EYE AND EAR HOSPITAL.

In the *Ophthalmic Review* for 1896 there appeared a description from one of us (J. W. B.) of the various operations which he had performed for the relief of this condition. At that time he had found the best results follow from an operation devised by Evans, of Sydney, which consisted of the separation of a strip of skin containing the cilia, its complete detachment except at the ends, and its rotation outward. The author had, at that time, graduated in the then existing faculties concerned with the operative treatment of entropion—that is to say, he had practised the operation of Arlt and that of Van Millingen and various other operations. He had, however, found the Evans' more satisfactory than any of them. Since then, however, we have gradually modified the proceeding by adaptation from various sources and have succeeded, we think, in devising an operation which is equally applicable to entropion and trichiasis of upper or lower lid, and with modifications to every variety of the disease. The various principles which seem to us to underlie the successful operative treatment of this troublesome condition fall under three heads:—

(1) measures which have for their object the rectification of the curve in the tarsus, where that exists;

(2) measures which have for their object the rotation outwards of the skin carrying the cilia; and

(3) measures which have for their object the displacement, upwards on the tarsus in the case of the upper lid and downwards in the case of the lower lid, of the skin carrying the cilia.

These three requirements can, at will, be effected, and relatively modified in the proceeding about to be described:—

Stage 1: An incision is made through the skin of the eyelid just above the cilia from end to end, care being taken that it is sufficiently long. The cut is carried down to the tarsus, and the skin, subcutaneous tissue and orbicularis muscle are dissected upwards towards the upper border of the tarsus. Gut sutures are now passed through the edge of the skin adjoining the cilia and are secured to the tarsus in its upper portion. We usually employ three sutures, one in the middle and one towards either extremity of the incision; these are securely tied, and the cilia are consequently everted. The edges of the skin insertion are sutured with horse hair, so that the gut sutures are to a great extent buried. This is, in effect, a slight variation of the method of Anagnostakis and Hotz. If the tarsus is very much incurved we have occasionally during this stage of the operation removed a V-shaped strip of it, or performed linear scarification, or have broken it through with the knife or galvano-cautery. Of the two latter proceedings the use of the knife has been found preferable to that of the cautery.

Stage 2: In the second stage an inter-marginal incision is made from the punctum to the outer canthus—the incision passing up into the substance of the lid behind the roots of the cilia, which are all included in the anterior flap. This incision is carried up to varying distances according to the requirements of the case, but it is always thorough and complete. There is no doubt that this incision joins that made in the first stage in many places but bridges are probably left here and there. The immediate effect of this incision is to increase the rotation which has already been produced and to permit of a certain amount of sliding up of the skin carrying the cilia on the tarsus. It will be seen, therefore, that in this stage the sliding principle adopted by Oettingen and others has been utilised.

Stage 3: The third stage represents a suggestion made by one of us (W. F. O.) which has been of signal service.—The posterior flap containing the tarsus is sutured to the lower lid by gut sutures, so that not only are the cilia displaced upwards, but the tarsus for the time being is displaced downwards. The case is dressed in the ordinary way and the patient put to bed for several days. The gut sutures tying the tarsus to the lower lid are removed in two, three, or four days; the horse hair sutures joining the edges of the skin a little later; whilst the gut sutures uniting the ciliary border to the tarsus are either allowed to stay in altogether or are removed when they become loose.

The obvious advantage of the proceeding described in the third stage caused us to suspect that the advantage of the operation lay largely in the principle of Oettingen, whose operation consisted simply in splitting the lid and pushing the anterior part upwards and securing it. We have accordingly performed a number of operations of this character but the result, however, is not so satisfactory as the proceeding just described. Excellent results are obtained, but one is apt to overdo the sliding and to leave behind below the cilia the red anterior surface of the tarsus which seems to take a very long time before it is covered with epidermis. After an extensive trial of the operative treatment in both lids we have finally reverted to the proceeding above described.

It will be seen that the operation involves no loss of substance; that it permits of the division of the tarsus, or the removal of a portion of it; that it utilises the methods of rotation of the cilia and of their displacement upwards or downwards. It can be repeated on the same person if the disease recurs, and it has never, in our hands, been followed by any disastrous consequences. It is applicable either to partial or total entropion or trichiasis, and by modifying it in its various stages, it can be graduated to meet varying requirements. So far we have not in any case been troubled by any after-deformities such as we formerly experienced in cases where any part of the proceeding was overdone; for example, in some of the rotation operations one was apt to rotate some parts of the ciliary border too much and other parts too little. The absence of this defect in the case of this operation is probably due to the fact that the original and the inter-marginal incision do not completely join.

Australia is the land of trachoma and the operations for entropion and trichiasis are probably as numerous proportionately as in any other country on the face of the globe; hence it is that we have taken some trouble to ascertain the operative procedure by which the most uniform results can be obtained with a reasonable expenditure of time.

The operation, in its first two stages, with a little modification, is practised in the Eye Clinic in Cairo, where one of us (J.W. B.) had an opportunity of seeing it, owing to the courtesy of Dr. Fischer. The various little additions and modifications have been gradually effected by us during the past four years.

We think that those who practise it will find that it will do for these troublesome cases all that operation can do.

CLINICAL, PATHOLOGICAL, AND THERAPEUTICAL MEMORANDA.

THE SUBCONJUNCTIVAL INJECTION OF COCAINE IN CATARACT AND OTHER OPERATIONS.*

BY

CARL KOLLER, M.D., New York.

It is now exactly twenty years since cocaine came into common use, and naturally little can be said on this subject which is not known to all my readers. There is, however, one point, with regard to the mode of its use in operations, on which I should like to say a few words, having for a long time wished for an occasion to do so in a manner which would secure proper publicity.

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*A paper read in the Section of Ophthalmology at the Annual Meeting of the British Medical Association, Oxford, July, 1904.

Very soon after my first publication and after cocaine had come into general use as an anæsthetic in eye operations, it became clear that it was satisfactory in operations performed on the superficial structures of the eyeball, cornea, and conjunctiva, but that it was frequently disappointing when operations on the iris were concerned. In fact, in operations for cataract, after a painless section of the cornea, when the iris was touched or even when it prolapsed, an intense pain was often felt by the patient, who would react, and disappointment would result to surgeon and to patient alike. Therefore, I began very soon afterwards to discard the method of merely instilling cocaine when operations on the deeper structures were intended, and commenced to inject it under the conjunctiva. The way I proceed is this: first, I instil a few drops in the conjunctival sac. I wait 1–2 minutes and then inject with a fine needle 2–3 drops of a 5 per cent. solution under the ocular conjunctiva, at the point where I intend to apply the fixation forceps—that is to say, just opposite to the place where the section is intended to be made. One must be careful to inject under the conjunctiva proper and not into the episclera; otherwise the resulting œdema-like infiltration will reach the place where one wishes to operate, and thereby make the performance of corneal or scleral section difficult. It will occasionally happen that a small subconjunctival hæmorrhage will result, but that is of no importance. Now we must wait 5–6 minutes, during which the eye is covered with a wet pad, and which time we may employ for preparations. After that we shall find the pupil dilated or dilating, an evidence that the drug has penetrated to the iris. If we now perform our operation we shall do it entirely painlessly, and be amply compensated for a slight complication of procedure and for the trifling loss of time. When forced to operate on cases of glaucoma or inflamed eyes, I use a general anæsthetic. But when operating on an eye not inflamed at the time of operation I employ a mixture of cocaine and pilocarpine for instillation and subsequent subconjunctival injection. I have used this proceeding almost ever since cocaine was brought into use, and have been thoroughly satisfied with it, and have not found any serious disadvantages to offset its benefits.

BILATERAL GLIOMA OF THE RETINA AND MULTIPLE? GLIOMATA OF THE SCALP.*

BY

EDMUND CAUTLEY, M.D., F.R.C.P.

PHYSICIAN TO THE BELGRAVE HOSPITAL FOR CHILDREN AND TO THE METROPOLITAN HOSPITAL, LONDON.

A little girl, just 2 years old, was admitted to the Belgrave Hospital for Children, London, under my care on May 6th, 1904, for multiple swellings on the scalp, stated to have been noticed for a week only.

History.—On September 29th, 1903, the right eye was removed at the Royal London Ophthalmic Hospital. The pathological report, kindly sent me from the Hospital, was:—"Glioma Exophytum. Œdema of the cornea. Anterior chamber contains blood and the angles full of glioma. White nodules on the iris near the pupil; iris covered with glioma, Lens *in situ* but degenerated. Retina detached. Large mass of glioma near optic disc; many satellites behind retina and on choroid. Choroid degenerated."

Present Condition.—The child on admission was backward and rachitic; face pale and looked unhealthy. Socket of the right eye seemed healthy, both the upper lids showed purplish discolouration. On the head were six swellings, varying in size from a cherry to a small walnut. They were fixed to the skull. The skin over them was freely movable and not inflamed or tender. One of the largest showed a little purplish discolouration, like that of a hæmatoma. Each swelling was rounded, well-defined, smooth, and firm, but not very hard. The left side of the face was a little swollen. There was no glandular enlargement.

Progress.—Since admission more swellings have appeared, and on May 27th there were no less than fifteen, all of them under the scalp, and most of them under the frontal portion. The earlier lumps had also increased in size. On this date there was much discolouration of the eyelids on both sides. The face was swollen, white, and waxy, mainly on the left side. There was a considerable hard swelling over the left zygoma and malar bone. The left eye was involved and somewhat proptosed. Vision was deficient and a white growth could be seen in the vitreous chamber, with retinal vessels running over it. The glands in both sub-maxillary regions were a little enlarged. No evidence of secondary growths elsewhere could be found. The general condition of the child had deteriorated, although she remained of about the same weight

The main interest of the case lies in the curious distribution of the secondary growths.

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*Case shown before the *Society for the Study of Disease in Children*, May 27, 1904.

NOTE UPON THE SIZE OF THE PUPIL IN IRITIS.

BY

H. HERBERT, *Major* I.M.S., F.R.C.S.

A small matter upon which definite statements are yet perhaps needed is the size of the pupil in the various grades of iritis. The usual text-book descriptions mention as the only departure from normal in this respect a reduction in the pupillary measurement. This is at variance with my experience in India. Grouping together primary iritis and iridocyclitis and secondary involvements from severe corneal affections, quite half the cases in Bombay, presumably untreated by mydriatic, show a slight enlargement of the pupil, as compared with that of the unaffected fellow eye, on distant fixation in ordinary daylight.

In mild, and especially early inflammations, likewise in the hyperæmia which accompanies slight corneal lesions, the pupil is usually contracted; and this contraction is at first largely the result of spasm of the sphincter. The small size may persist in later stages with a high grade of inflammation, owing to anchoring of the pupil by posterior synechiæ; and a pin-point contraction may finally result from a shrinkage of the pupillary membrane.

Chiefly in severe attacks, but also in some quite mild inflammations, especially such as have lasted for a few weeks, paresis of the sphincter may be responsible for a slight enlargement of the pupil. *Plus* tension, where present, must tend also to dilate the pupil, but the enlargement still remains only very slight. Congestion and infiltration of the iris insure this. An earlier contracted state of the pupil is not infrequently outlined in these cases by a ring of pigment deposited on the lens capsule.

That the dilatation of the pupil is not an effect of previous mydriatic treatment may be inferred—quite apart from the patients' statements—from the uniformly low degree of the alteration in size, from the absence of marked irregularity in outline of the pupil, and often from the prompt response to the instillation of atropine in hospital. The same slight enlargement was seen in three untreated cases of iritis sent over from a general hospital—attacks which had begun while the patients were in hospital.

In India the effects of severe iritis are much more frequently seen than in this country. This is largely owing to the cases often remaining for long practically untreated, or to the eyes being simply irritated by native quack treatment. There are also many severe inflammations secondary to *ulcus serpens* and other grave infections of the cornea. The high average grade of inflammation appears to be responsible for the considerable proportion of cases showing an increase of ocular tension.

CURRENT LITERATURE.

NOTE.—Communications of which the titles only are given either contain nothing new or else do not lend themselves to abstract.

I.—ANATOMY, PHYSIOLOGY, PATHOLOGY, AND BACTERIOLOGY.

Bardelli, L.—A contribution to the study of Filamentary Keratitis. (Contributo allo studio della Cheratite filamentosa.) *Annali di Ottalmologia*, Vol. XXXIII, Fasc. 1-2, p. 3.

From his clinical and microscopical researches **Bardelli** believes that in filamentary keratitis the corneal epithelium, by abnormal proliferation, constitutes a bud, which later becomes elevated and acquires a pedicle. The movements of the lids and globe then bring about the torsion and elongation of the pedicle, owing to traction upon the contiguous portions of the epithelium, more or less loosely attached to the deeper layers.

A. ANTONELLI.

Harms, Cl.—Contribution to hæmorrhagic retinitis. (Zur Frage der Retinitis hæmorrhagica.) *Recueil des travaux Xe congrès international d'Ophtalmologie*, Lucerne, septembre, 1904.

Harms refers to Wagenmann's, Stoelting's, Reimar's, and Meyerhof's papers, in which was stated that a more or less complete occlusion of the central artery may occasionally give rise to the ophthalmoscopic appearance of hæmorrhagic retinitis, instead of to the well-known clinical picture of so-called embolism of the central artery. Harms, however, thinks that these cases are not conclusive, as a coexistent thrombosis of the vein may be easily overlooked unless a careful examination is made of a complete series of sections through the optic nerve from the lamina cribrosa to the entrance of the central vessels. In two cases of hæmorrhagic glaucoma he found that the central arteries exhibited the most conspicuous anatomical changes, yet there was also an occlusion of the central veins for ½ mm. of their course within the lamina cribrosa to account for the retinal hæmorrhages. Chiefly alterations of the vein, but also occlusion of the artery, were found in a third case, in which, from the clinical appearance, the diagnosis had been made of embolism of the central artery.

C. MARKUS.

Pooley, Thomas R.—A case of leuco-sarcoma of the Choroid. *Trans. American Ophthal. Society*, Vol. X (1903), p. 137.

A man, aged 35 years, showed absolute glaucoma in one eye. An iridectomy was followed by repeated hæmorrhages into the anterior chamber, so that twenty-two days after the first operation the eye was enucleated. A tumour lay between the detached retina and the sclera. It was made up of two parts connected by a narrow, constricted portion. It arose from the postero-temporal part of the choroid, just behind the equator. It had a white appearance, and showed very few blood-vessels. Microscopically, the growth consisted of small, round cells, and scanty intercellular substance. The small blood-vessels had walls of a single layer of cells. A few pigment granules lay in the peripheral portions of the tumour, which was diagnosed as a small, round-celled, leuco-sarcoma of the choroid.

Gonin, J.—The part played by the vitreous body in the different forms of detachment of the retina. (Le rôle du corps vitré dans le différentes formes de decollement rétinien.) *Recueil des travaux Xe congrès international d'ophtalmologie*, Lucerne, septembre, 1904.

Gonin's article concludes with these words: Leber's theory, attributing detachment of the retina to traction exercised by the vitreous body, is applicable to ordinary cases of non-traumatic detachment; on the other hand, it is not applicable to the great majority of cases of traumatic detachment, even when the latter are accompanied by an escape or retraction of the vitreous body.

Buchanan, Leslie.—A report upon the examination of one thousand eyes excised in the Glasgow Eye Infirmary. *Recueil des travaux Xe congrès international d'ophtalmologie*, Lucerne, septembre, 1904.

Buchanan reports that 163,000 new patients were seen at the Glasgow Eye Infirmary during a period of nine years, and that 1,000 eyes were excised, the ratio thus being 1 in 163. Of the excised eyes, injury was responsible for the removal of 695 and disease of 305. Buchanan's paper contains many interesting statistical details, which, however, do not lend themselves to abstract.

Fromaget, Camille.—The estimation of refraction by Scheiner's method. (Mesure de la réfraction par la méthode de Scheiner: amétropomètre de M. le Dr. Le Méhauté.) *Annales d'Oculistique*, T. CXXIX (1903), p. 186.

Gourfein.—The rôle of the Bacillus subtilis in affections of the Eye. (Le rôle du Bacillus subtilis dans les affections oculaires.) *Recueil des travaux X^{e} congrès international d'ophtalmologie*, Lucerne, septembre, 1904.

Until recently the B. subtilis was looked upon merely as a saprophyte, widely distributed in nature. It has now been shown, however, by the observations and experiments of Poplawska, Haab, Roemer, Kayser, Silberschmidt*, and Michalski, to be capable, under certain circumstances, of acquiring pathogenic properties. Thus, it has been found (either alone or associated with other micro-organisms) in panophthalmitis and, by Michalski, in acute conjunctivitis.

Gourfein has demonstrated the B. subtilis on seventeen occasions in men, women, and children suffering from a more or less acute conjunctivitis. As regards the clinical characters of the cases, all occurred in country folk whose eyes had been injured by earth in one form or another. Symptoms were acute in seven and subacute in ten of the cases. Subconjunctival hæmorrhages were a marked feature twice. The disease was unilateral in six cases, and bilateral in the others. Duration varied from six to eighteen days. Slight corneal complications were met with twice. In five cases the B. subtilis was found in pure culture, and in the remaining twelve cases it was associated with ordinary conjunctival saprophytes (5), with s. p. aureus (3), with streptococci (2), and with pneumococci (2). Silver nitrate, 2 per cent., was employed as means of treatment. Experimentally, Gourfein has found that a pure culture of the B. subtilis when placed in contact with the wounded conjunctiva of rabbits gave rise, within twenty-four hours, to an acute conjunctivitis, with abundant secretion containing the same micro-organism. The mere introduction into the sac, without a previous lesion of the mucous membrane, yielded negative results. The cornea proved much more resistant to the microbe, since an infiltration of that membrane could be produced only by first injuring the parts severely or by injecting a pure culture of the organism into the substantia propria. Injection of a broth culture into the anterior chamber led to iritis, which in some instances had a suppurative character. Injection of a similar emulsion into the vitreous provoked panophthalmitis. In all these cases it is important to note that infection remained limited to the eye. Eight inoculations of the lacrymal sac, healthy and wounded, failed to produce a true dacryocystitis. Gourfein concludes his communication by stating that the B. subtilis, as found in earth, may give rise to disorders, serious or otherwise, of the eye, but that these affections possess no especial characters which allow of their being distinguished clinically from lesions caused by other pathogenic micro-organisms. S. S.

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*See THE OPHTHALMOSCOPE, Vol. I (1903), p. 220.

Ahlström.—On Dacryops. (Ueber Dakryops.) *Klin. Monatsbl. f. Augenheilkunde*, Januar, 1904, p. 70.

Ahlström examined a case of dacryops anatomically. The cyst was covered with a single layer of flat cells. The tissue of the lacrymal gland was infiltrated. Ahlström believes the cause of dacryops to be obstruction to the flow from the lacrymal gland. In opposition to Sourdille, who considers inflammatory infection of the lacrymal gland as primary, he holds the inflammatory changes to be secondary.

A. BIRCH-HIRSCHFELD.

Herbert, Major H.—The chromatophores of the human conjunctiva. *Recueil des travaux Xe congrès international d'ophtalmologie*, Lucerne, septembre, 1904.

Herbert draws attention to the occurrence of chromatophores, comparable with the branched pigment-bearing cells of the human epidermis, in pigmented conjunctiva, such as is present, for instance, in Indian natives affected with long-standing epithelial xerosis.

Yamaguchi, H.—A contribution towards the knowledge of Melanosis Corneæ. (Beitrag zur Kenntnis der Melanosis Corneæ.) *Klin. Monatsbl. f. Augen.*, Februar, 1904, p. 117.

Yamaguchi found extensive patches of pigmentation in the centre of the cornea of both eyes of a pig. The colouring matter was situated in the epithelial layer, where irregular chromatophores were found among the basement cells, side by side with fine-grained intracellular pigment. The substance of the cornea was entirely normal. Yamaguchi adopts Kromayer's view, according to which the chromatophores arise from the peripheral fibrous structure of the epithelial cells being impregnated with pigment.

A. BIRCH-HIRSCHFELD.

Parsons, J. Herbert.—Some anomalies of pigmentation. *Recueil des travaux Xe congrès international d'ophtalmologie*, Lucerne, septembre, 1904.

Parsons has examined examples of diffuse pigmentation of the conjunctiva and cornea, melanosis of the conjunctiva and sclera, congenital pigment spots in the retina, and pigmentation in siderosis bulbi. He enquires what relationship such cases bear to malignant disease of the eye, and seeks an expression of opinion with regard to their prognosis and treatment.

Gourfein-Welt, Mme. Dr. L.—On the pathogeny of detachment of the retina in albuminuric retinitis. (De la pathogénie du décollement rétinien dans la rétinite albuminurique.) *Recueil des travaux X^e^ congrès international d'ophtalmologie*, Lucerne, septembre, 1904.

According to Madame **Gourfein-Welt**, of Geneva, there are two theories to explain detachment of the retina: (1) that the retina is displaced by an exudation from the choroid; (2) that it is dragged from its place by retraction of the vitreous body, or that liquid from the vitreous gets behind the retina by passing through a tear or rent in that structure.

After reviewing the six cases, in which an anatomical examination has been made of detached retina in albuminuric retinitis, Madame Gourfein-Welt adds two new cases to the list. The first was in a woman, aged 33 years, suffering from nephritis and retinitis, in whom about ten days before her death, bilateral detachment of the retina was found. The second case was in a man, aged 32 years, who died from uræmia in the course of nephritis. Bilateral retinitis had existed for six months before death, and the retina had been detached probably for about two weeks.

Pathological examination of the two cases yielded the following results. *Case No.* 1—R.E. The detachment, which commenced around the optic papilla, was most marked in the equatorial region below. The homogeneous sub-retinal exudation was of a yellowish-brown colour, while the vitreous was detached in the posterior part of the globe. Around the optic disc the folded retina was very thick. No rent could be found in the retina. The choroid, especially near the papilla, was thickened. A grumous deposit was present in the anterior chamber. Microscopically, the posterior part of the vitreous was found to be composed of a network of fine fibres, which became much thicker in the neighbourhood of the ora serrata. The hyaloid membrane was folded, thickened, and separated from the retina in the region of the posterior pole, the intervening space being filled with a grumous deposit. No adhesions could be made out between the retina and the vitreous body. The retina presented the changes characteristic of albuminuric retinitis. The œdematous pigmented epithelium, which was adherent to the choroid, presented a tear in the vicinity of the ora serrata. The sub-retinal exudation was homogeneous. The papilla was markedly œdematous, and one of its large vessels was thrombosed. Thrombi were also present in some of the retinal vessels. A tissue of new formation, made up of round and pigmented cells and fibres, lay between the choroid and retina, and extended from the optic disc to the macula. This latter appearance has been already described by Uhthoff, who regards it as a process tending to the cure of detachment. The choroid was thickened, its vessels altered, and foci of round cells were found here and there in its substance. L.E. The pathological changes closely resembled those already described as present in the right eye. *Case No. 2.*—Apart from the detachment, which was less pronounced, the pathological changes were like those of the first case.

To sum up the matter briefly. The pathological changes in the retina and choroid were not very dissimilar from those found in albuminuric retinitis unassociated with retinal detachment. The vitreous body was thickened and retracted, changes that, in Madame Gourfein-Welt's opinion, do not account for detachment of the retina. They are, indeed, comparable with the vitreous lesions described by Leber (*Handbuch der ges. Augenheilkunde von Graefe-Saemisch*, 1st edition, Vol. V., p. 576) in albuminuric retinitis without detachment. Retraction of the vitreous is probably of mechanical origin and consecutive to detachment. Cases have been reported by Uhthoff, Kunz, Sammet. Brecht, and Schweigger-Herter where detachment of the retina has appeared with dropsy (general or local), and has disappeared with the subsidence of the dropsy. These facts show the close relationship between general or local œdema, on the one hand, and detachment of the retina, on the other. Another analogy exists between the two things, namely, the rapidity with which both may appear and disappear. The sub-retinal exudation is to be regarded merely as a dropsical effusion behind the retina, the outcome of certain alterations in the retina. With the microscope, one may often find in albuminuric retinitis a grumous or reticular exudation lying in front of and behind the retina. This exudation, which is liquid during life, is derived from œdema of the retina. When it is present, the retina may be said to lie between two layers of liquid, and this is doubtless a factor predisposing to detachment by secretion poured out by the choroid. Since the alterations are especially marked around the papilla, detachment always occurs in that situation, wherever else it may take place. The existence of detachment in the lower part of the eye, mentioned so often in clinical cases and proved by pathological examination, is easily explained by gravitation of the sub-retinal effusion.

Madame Gourfein-Welt concludes: 1. In the detachment of albuminuric retinitis, the sub-retinal exudation comes from the choroid, and is merely a dropsical exudation behind the retina, identical with œdema of other organs. 2. The reticulated or grumous exudation which precedes actual detachment, and which is found in front of and behind the retina, is derived from the latter membrane. 3. Detachment of the retina may be produced without active traction, inasmuch as we have not been able to find adhesions between the vitreous body and the retina. 4. Neither is detachment due to passive traction, for the retraction of the vitreous body found anatomically is probably posterior in point of time to the detachment, and hence cannot be the cause of the last-named. S. S.

Mettey, Ed.—Experimental researches upon injury of the eye produced by the electric light. (Recherches expérimentales sur le phototraumatisme oculaire par la lumière électrique.) *Archives d'ophtalmologie*, avril, 1904.

Mettey's article is based upon experiments carried out upon rabbits and dogs exposed to a Voltaic arc lamp of 90 volts and 22 amperes. In all the observations one eye was alone exposed to the rays, and the other was used as a control. An ophthalmoscopic examination was made after each experiment, but the results were uniformly negative. The histological investigations bore more particularly upon three parts of the eye: (1) the ganglionic cells of the retina; (2) the retinal pigmented epithelium; and (3) the optic nerve. The details of the experiments may be epitomised as follows: four rabbits were exposed for fifteen minutes at a distance of O m. 30 from the arc light, and the eyes were then removed after the animals had been killed. The eyes were opened equatorially, and the posterior segment plunged into 75% to 80% alcohol. The retina, which became detached almost immediately, was separated from the optic papilla, and placed in 100% alcohol. It was next embedded in celloidin, cut, and stained with 1% thionine for sixty minutes. Decolourisation was carried out with 95% alcohol or with xylol-aniline. The specimens were mounted in balsam. The Nissl bodies of the ganglionic cells of the retina were well stained by this method. No histological differences, however, could be established between the preparations from exposed and non-exposed retinæ. Two dogs were next dealt with in a somewhat similar way. In these animals no alterations due to the exposure could be found. A third dog was treated by Bethe's method, but the results were still negative.

No pathological changes could be found in the pigmented epithelium of the retina exposed to the arc light.

Next, four rabbits were exposed, and the optic nerves carefully treated by Marchi's method. Two of the rabbits were exposed to the full radiations of the lamp, and the others to the radiations deprived of chemical rays and part of the luminous rays by the interposition of red glass. The heat, as determined by a thermo-electric pile, was the same in all the animals. As to the rabbits first-named, it was found that the nerve manifested myelin changes, these being more marked the longer the exposure was continued. For example, after a total exposure of fifty minutes, the alterations were traced along the nerve for a distance of 6 mm. behind the globe; whereas after ninety minutes' exposure, they reached to within 4 mm. of the chiasma. With regard to the other rabbits, *i.e.*, those exposed to rays modified by red glass, it was doubtful whether changes existed.

The foregoing experiments show, then, that in animals, exposure to the arc light may produce changes in the nervous portion of the eye. They thus bear out the general rule, namely, that over-use may damage the organ of which it is the seat. It may be assumed that the human eye exposed to electric light comports itself as does the eye of rabbits and dogs under similar circumstances. Slight cases of electric dazzling, where recovery is the rule, are due to reparable lesions. On the other hand, serious cases, accompanied by diminution or loss of the visual functions, are due to irreparable retinal lesions, leading to descending degeneration of the fibres of the optic nerve. No definite statement can yet be made as regards the particular rays that cause the mischief. S. S.

Troncoso, Uribe.—The composition of the aqueous humour in cases of senile cataract. (La composition de l'humeur aqueuse dans les cas de cataracte sénile.) *Annales d'oculistique*, T. CXXX, 1, 1903, p. 78.

After a brief historical review, **Troncoso** passes on to describe the investigation he has made with regard to the composition of the aqueous humour in cases of senile cataract. Seven observations, including ten analyses, were made in different stages of senile cataract. The author formulates the following among other conclusions: (1) The quantity of albumen does not increase in the aqueous humour during the formation of a cataract, as heretofore believed. (2) In commencing nuclear cataract, there is a considerable augmentation in the saline constituents of the aqueous, an observation not confirmed in the case of a commencing cortical cataract. (3) When maturity is reached, the composition of the aqueous becomes normal. (4) In hypermature cataract, analysis demonstrates an increase in the proportion of the organic contents of the aqueous humour.

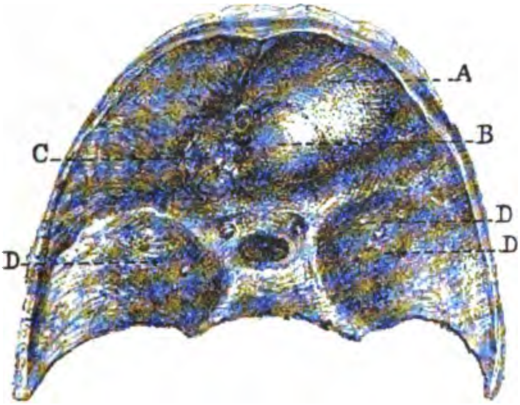
Cantonnet, A.—Variations in the volume of the healthy or glaucomatous eye under the influence of modifications in the molecular concentration of the blood. (Variations de volume de l'œil sain ou glaucomateux sous l'influence des modifications de la concentration moléculaire du sang.) *Archives d'ophtalmologie*, avril, 1904.

Van Duyse.—Pulsating exophthalmos due to a mucous, pseudo-cystic, fibro-sarcoma of ethmoidal origin. (Exophthalmie pulsatile par fibro-sarcome muqueux pseudocystique d'origine ethmoidale.) *Archives d'ophtalmologie*, mai, 1904.

In the present article, which abounds with references to more or less similar cases, **Van Duyse,** of Ghent, makes an important contribution to the study of malignant tumours of the ethmoid. The clinical facts of the case have already been published (*Bulletin de la Société Belge d'Ophtalmologie*, janvier, 1903), but the more prominent features may be briefly recapitulated in this place. The mischief began in the year 1895. Two years later (1897) the right eye of the patient, a young man, was displaced forwards, downwards, and outwards. The exophthalmos was then accompanied by a bruit, which became less pronounced upon compression of the carotid. There was no perceptible thrill. The eyeball pulsated synchronously with the pulse. Retinal veins hyperæmic; vision = 2/3. There was, moreover, post-papillitic atrophy of the left optic disc, with vision of 1/25. A diagnosis was made of aneurism of the ophthalmic artery. One year later, a tumour, regarded as an aneurism of the posterior ethmoid, was found in the right nasal fossa. There was anosmia on the affected side; hearing was impaired. In the year 1900—that is, five years from the beginning of the mischief—the "frog-faced" appearance of the patient was well-marked. R.V. = $\frac{2}{3}$; hyperæmia of the retinal veins; lower border of the papilla swollen. The pulsating mass had continued to enlarge, had traversed the mass of the ethmoid, and had filled the right frontal sinus. It had disjointed the nasal bones, and produced a pulsating pouch at the level of the angle of the orbit. The patient was deaf on the left side and almost deaf on the right. The left eye was totally blind. Repeated epistaxis led to ligature of the carotid, after which the pulsation and bruit completely disappeared. Towards the end of 1902 the neoplasm appeared in the naso-pharynx. The patient died in May, 1903, with symptoms of bulbar paralysis.

Autopsy.—A metastatic tumour, as large as a mandarine orange, was found to cover the left half of the pons Varolii, extending from its anterior border as far back as the basilar artery. It lay in contact with the left cerebellar peduncle. The dura mater of the anterior cranial fossa was elevated by a globular mass (Figure A), of bony hardness, and as big as a hen's egg. It corresponded to the roof of the right orbit, raised by an underlying tumour, and to the lamina cribrosa.

Passing the middle line it extended into the left half of the fossa. The mass (A B) had flattened the inferior aspect of the right frontal lobe of the brain, while pushing back the internal surface of the lobe and its congener on the other side. Several secondary growths (D, D) were found in the base of the skull, but all with one exception (C) were of small size. The nodule C was as big as a chestnut, occupied the inferior aspect of the left frontal lobe in the immediate neighbourhood of the temporal lobe. The primary tumour had originated from the middle ethmoidal cells, and had invaded the antrum, the sphenoidal and the frontal sinuses, and the right nasal fossa. Naked-eye sections of the neoplasm recalled the appearance of multilocular glandular cystoma of the ovaries. Upon histological examination, the metastatic tumours were found to be in the nature of fibro-sarcomata. On the other hand, the primary growth, which had probably originated from the periosteum, had undergone mucoid metamorphosis. The septa dividing the pseudo-cysts from one another were composed of fibro-sarcomatous elements and blood vessels. Pigmentary granulations, representing former interstitial hæmorrhages, were frequent in the recesses of the neoplasm.



Marchetti, O.—False neuroma of the suborbital nerve. (Falso nevroma del nervo sotoo-orbitario.) *Annali di Ottalmologia*, Vol. XXXIII, Fasc. 1-2, p. 29.

In the case described by **Marchetti,** a voluminous fibroma had developed around the suborbital nerve, invading the orbit, displacing the eyeball, and having undergone the degenerative phases of connective tissue.

A. ANTONELLI.

Levi, Emile (Stuttgart).—On the subjective appearance of coloured areas in the field of vision: coloured scotomata. (Sur la vision de tâches colorêes dans le champ visuel: scotomes colores.) *La Clinique Ophtalmologique*, 10 janvier, 1903.

Levi having referred to the six cases of coloured scotomata collected from literature by Hilbert, proceeds to describe at considerable length a case of his own in which the scotomata differed from the others both in form and mode of onset. The patient was a healthy woman of 27 years, with no family or personal history bearing upon the case, except that whereas previous to the onset of the eye affection she had menstrual troubles, she now had none. Early in 1900 a black spot, which afterwards became red, appeared suddenly in the right field of vision. Several weeks later the same phenomenon appeared in the left field. She was treated by internal remedies, which did no good, and she now sought further advice, because since April, 1902, the condition had been rather worse. The author then describes the coloured area as seen by the patient, *viz.*: a round, red spot down and out from the object fixed, emitting trembling rays in all directions. Its size varied with the accommodation, being the size of a pea on near vision and of a five franc piece on fixation at 150m. Many other interesting points in the behaviour of the red spot, under different conditions of attention, illumination, and so on, are described. Besides the coloured scotomata there were other relative scotomata in each eye, but no peripheral restriction for white or colours. Ophthalmoscopically there was nothing whatever pathological seen in the media or fundi. The nervous system presented a few minor symptoms, and the patient was accordingly treated by functional suggestion, the constant and faradic currents, and valerian. These did no good as regards the ocular phenomena, and the patient left the *clinique* uncured.

Turning to the cause of the affection, Levi discusses functional *versus* anatomical. *First.* A functional cause he thinks is excluded:—(1) While the slight functional symptoms in other parts of the body disappeared under treatment, the ocular phenomena remained. (2) No connection could be traced between these two sets of symptoms. (3) The long duration without alteration. (4) The dependence of the phenomena on attention and movements of the eye. (5) The nature of the scotomata. (6) The sudden onset and the alterations which took place in the spot. *Secondly.* If anatomical, what is the site? Either the retina or the cortical visual sphere. The latter is excluded because the spots in the two visual fields are asymmetrical, and the author is forced to suppose that, although nothing was visible with the ophthalmoscope, there was, nevertheless, a retinal lesion of some sort. W. ERNEST THOMSON.

Pollock, W. B. Inglis.—Tubercular Iritis. *Glasgow Medical Journal*, February, 1904.

Pollock has an excellent paper on tuberculous iritis, which includes a careful account of the pathological examination of an eye affected with tuberculosis of the uveal tract. A girl, 16 years of age, with a family history of tuberculosis, and signs of phthisis pulmonalis at the apex of the right lung, suffered from bilateral interstitial keratitis. Two years after, several millet seed-like bodies were observed near the pupillary edge of each iris. Tension was *minus*, and sight extremely defective. Treatment included atropine, fomentations, mercury, potassium iodide, upward iridectomy, and so forth. Finally, one eye became so painful that enucleation was necessary. Upon section, a number of small tubercles were found in the choroid. Microscopically, circular synechia; connective tissue membrane across pupil; iris *bombé*. The nodules seen in the iris during life were composed of epithelioid and round cells, but neither giant cells nor tubercle bacilli could be found. They were not capsulated, neither were vessels present in their interior. Other similar nodules lay deep in the stroma of the iris and in the ligamentum pectinatum. No caseation noted. The choroidal tubercles were made up of giant, epithelioid, and round cells, although neither caseation nor bacilli were observed. C. D. M.

Monesi, Luigi.—Morphology of the Lacrymal passages in the human fœtus. (Die Morphologie der fötalen Tränenwege beim Menschen.) *Klinische Monatsblätter für Augenheilkunde*, XLII, Januar, 1904.

A full paper, examining carefully the development of the lacrymal passages in the human fœtus from the second month, and including a detailed consideration of the literature upon the subject. The particulars—for which the reader must be referred to the original—are interesting, and illustrated by 66 successful micro-photographs. The paper furnishes an important contribution towards the explanation of congenital abnormalities, and perhaps also to some extent, of pathological affections of the lacrymal passages.

A. BIRCH-HIRSCHFELD.

Gagniere. — The general theory of Cuignet's method. (Théorie générale du procédé de Cuignet.) *Archives d'ophtalmologie*, T. XXIII (1903), p. 703.

II.—DISEASES AND INJURIES OF THE EYE AND ORBIT.

Trousseau, A.—Emotional Glaucoma. (Le Glaucome Emotif.) *La Clinique Ophtalmologique*, 10 février, 1903.

Trousseau calls attention to the fact that there is a tendency to lay too much stress on the anatomical causes of glaucoma to the exclusion of the emotional, but, while citing a number of most interesting cases in which an acute attack of glaucoma had come on almost instantly after some considerable excitement, disavows any intention of thoroughly discussing such a complex question as the pathogenesis of the disease. It is interesting to note that in two cases acute glaucoma supervened on surgical interference with the lacrymal passages, and in one case on an operation for chalazion. Trousseau thinks that in many cases an attack of glaucoma in the second eye is due to the violent emotion caused by iridectomy for glaucoma in the first eye. W. Ernest Thomson.

Snell, Simeon.—Paralysis of the upward movement of the Eyes. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

A man, aged 50 years, suddenly developed diplopia and giddiness. **Snell** found a complete inability to move the eyes upwards. Under treatment by potassium iodide, the lost function was recovered in about six weeks.

Doyne, Robert W.—Intra-Ocular hæmorrhage in each eye of a young man; recurrence. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

Suker, George F.—Paralysis and Paresis of the Muscle of Accommodation. *American Journal of Ophthalmology*, July and August, 1903.

In this elaborate monograph **Suker** considers paresis and paralysis of the muscle of accommodation as a distinct and separate pathological entity. Considerable space is devoted to an analysis of the earlier recorded cases. The causative conditions are then discussed one by one as follows: syphilis, sympathetic ophthalmia, glaucoma, injuries to the eye, defective teeth, over-exertion, poisons, diabetes, influenza, diphtheria, hysteria, and general diseases. The paper ends with a few remarks on treatment, and a lengthened list of references.

Fejér, Julius.—A contribution to the differential diagnosis between Glioma of the Retina and Pseudo-glioma. *Archives of Ophthalmology*, March, 1903.

Fejér's communication centres around a somewhat curious case, in a child four years of age. The patient was blind and squinted inwards with one eye, the interior of which presented a yellow reflex. The retina was detached, and in the upper part of the fundus atrophic spots, as large as the disc, were seen partly surrounded by pigmented edges. There were numerous atrophic spots in the choroid and retina of the other eye. Shortly afterwards, tension rose and lacrymation and photophobia came on. At this stage Professor Fuchs examined the child, and expressed the opinion that it might be an early glioma. However, tension fell, and the ophthalmoscopic lesions remained without change, so that the diagnosis of glioma had to be abandoned in favour of a bilateral chorio-retinitis.

The frequency of glioma varies, as might be expected, according to the age of the patients from whom the statistics are derived. It is, anyhow, a rare disease. Instances of pseudo-glioma, on the contrary, are relatively frequent. Glioma may be confused with several conditions, of which the most important are pseudo-glioma, detachment of the retina, and sarcoma and tubercle of the choroid. Pseudo-glioma in children usually begins with inflammation and pain. There is photophobia. The colour of the intra-ocular reflex is a metallic yellow. The exudation contains no vessels, whereas a tumour is richly supplied in that direction. The surface of the exudation is smooth ; that of a tumour nodular. " The most important point is that the tension in cases of tumour is normal at first and later becomes increased, while in cases of exudation tension is diminished, particularly in the later stages when atrophy and retraction begin. Wetsch considers ectasia of the cornea characteristic of glioma, although this symptom, as well as increased tension, may also be present in plastic and tuberculous inflammations of the choroid, as is sufficiently proved by Brailey's case. Saemisch mentions a case in which the increased tension was caused by detachment of the retina, purulent choroidal inflammation, and connective tissue degeneration. The presence of synechiæ also indicates inflammation. These symptoms, however, are sometimes so confusing that the transition stages become unduly prominent, and the most skilled diagnostician may find himself at fault." Fejér also points out that purulent inflammation of the vitreous, cysticercus, and opacities of the vitreous that become organised may lead to an incorrect diagnosis.

Hirschberg, J.—On glioma retinae. (Ueber den Markschwamm der Netzhaut.) *Centralb. für prak. Augenh.*, April, 1904.

Hirschberg analyses the cases of glioma on which he has operated up to the year 1903—in all 17 cases. Of these, in 10 there were no recurrence, although some of the cases had been observed for from 5 to 12 years. In the remaining 7 cases the growth recurred, either locally or in the brain. The author is inclined to give a good prognosis in those cases where not more than ten weeks have elapsed between the first appearance of the white reflex from the pupil and the operation, and where, further, the optic nerve at the point of division is found to be free from disease. Hirschberg's method of operation is as follows: at first, if necessary, the palpebral fissure is widened by a cut with the scissors through the outer canthus. The internal rectus is then separated from its tendon and the tendon seized with a pair of broad fixation forceps. The other three recti are then divided. The eyeball, by means of the fixation forceps, is then drawn well over to the nasal side, and the optic nerve divided by means of the sickle-shaped knife or neurotome of V. Graefe, the knife being passed along the nasal wall of the orbit, and forced well back. By this means as much as 10 mm. of the nerve are removed with the eyeball.

A. LEVY.

Mills, J. J.—Y-shaped Rupture of the Choroid in the Macula region with retention of good vision. *Archives of Ophthalmology*, May, 1903.

Bull, George J. — The accommodative Asthenopia of Donders. *Annals of Ophthalmology*, July, 1903.

Cohen, Lee.—A case of retinitis proliferans. *Journal of Eye, Ear, and Throat Diseases*, March-April, 1904.

Cohen divides case of retinitis proliferans into two classes: first, those which follow, and, secondly, those which do not follow antecedent hæmorrhage into the eye. A case is related in a woman, aged 23 years.

Shute, D. Kerfoot.—The pupil in "Pink Eye." *Journal of Eye, Ear, and Throat Diseases*, March-April, 1904.

Scott, Kenneth.—A note on fibro-myoma of the bulbar conjunctiva. *Lancet*, April 30th, 1904.

Emmert, E.—On the causes of Myopia. (Ursachen der Kurzsichtigkeit.) *Recueil des travaux X^e congrès international d'Ophtalmologie*, Lucerne, septembre, 1904.

Emmert, after commenting on the inadequacy of existing theories of the causes of myopia, proceeds to state his own view, which, however, seems unlikely to meet with general acceptance. His argument runs as follows. Influences lowering the general health during adolesence impair the muscular system, and the ciliary muscle with its different sets of fibres shares in the debility and is easily exhausted. But whereas the circular fibres can by an extra force of will be made to work in the interest of accommodation, the meridional fibres (tensor choroideæ) relax according to their state of weakness, thereby diminishing the tension of the choroid, exposing the sclerotic to increased pressure, and causing it to yield and to elongate. We thus see Emmert accusing the meridional fibres of doing too little work, whereas older theories maintained just the contrary. C. MARKUS.

Mazza, Andrea.—A new case of transitory circulation or lymphatic infiltration of the cornea. (Un noveau cas de circulation ou infiltration lymphatique transitoire de la Cornée.) *Recueil des travaux X^e^ congrès international d'ophtalmologie*, Lucerne, 1904.

Mazza observed a curious phenomenon in the eye of a patient, aged 36 years, who had recently suffered from syphilitic irido-choroiditis. Upon lowering the head for a short time, as in reading a book, a white spot appeared in the cornea of the affected eye. It disappeared as quickly as it appeared, was associated with slight pericorneal redness, and with a kind of œdema involving the ocular conjunctiva and extending to the cornea. Mazza himself saw the corneal patch appear and disappear in seven to ten seconds. It lay in the middle of the lower segment of the cornea, and assumed the shape of a somewhat truncated cone, of which the base measured 3 mm. and the apex 1 mm. It was situated in the superficial layers of the cornea. On using a magnifying glass, it was seen to consist of small spaces, almost capillary vessels, and the liquid contained in those vessels could be observed to sink lower and lower in proportion as the cornea cleared from the centre towards the periphery. The singular appearance could be elicited for a few days only.

Lewis, Eugene R.—Report of a case of Pseudo-Torticollis with abnormal associated movements of head and eyes. *Ophthalmic Record*, January, 1903.

Rollet, Étienne.—Lymphoma of the episclera and bilateral lymphoma of the lacrymal glands. (Lymphome de l'épisclère et lymphome bilatéral des glandes lacrymales.) *Recueil des travaux X^e^ congrès international d'Ophtalmologie*, Lucerne, septembre, 1904.

A man, 50 years of age, presented a yellowish episcleral growth of one eye, associated with an oval swelling in the supero-external angle of each orbit. A diagnosis was made by **Rollet** of lymphadenoma of the lacrymal glands with an episcleral metastasis of the growth. The affected eye, which was blind on account of a central leucoma, was removed, when it was found that the episcleral growth was the salient point of a diffuse tumour reaching almost to the entrance of the optic nerve. The corresponding lacrymal gland was also taken away. Pathologically, the tumours were found to be lymphomata. No recurrence when the patient was seen a year after operation. Rollet expresses the opinion that lymphadenomatous growths of the orbit are less serious than is sometimes thought.

H. de V.

Zazkin, A. B.—Upon the question of dacryocystitis in newly-born children. (Zur Kasuistik der angeborenen Dakryocystitis.) *Woch. f. Ther. u. Hygiene des Auges*, 11 August, 1904.

After describing (very imperfectly) a case of more or less acute dacryocystitis in a baby, twelve days old when first seen, **Zazkin** goes on to state that such cases are rare, inasmuch as only fifty were reported in German literature prior to the year 1900 and five in Russian literature since that date. *Zazkin* rejects the view that the affection is related etiologically to inherited syphilis.

S.S.

Tschemolossow, A.—On retinal hæmorrhages in pernicious anæmia due to Bothriocephalus latus. (Ueber Netzhautblutungen bei perniziöser Bandwurmanaemia.) *Die Ophthalmologische Klinik*, 20 Mai, 1904.

Tschemolossow describes the following changes in the fundus of both eyes: pale discs, sometimes with blurred edges, as the result of slight œdema of the retina (no inflammatory changes); veins showing circumscribed, fusiform dilatations; and multiple round and striated retinal hæmorrhages. The ecchymoses are situated near the blood-vessels, chiefly in the layer of nerve-fibres and around the disc. The larger hæmorrhages showed a lighter centre. C. Markus.

Houdart, E.—Simultaneous septic ophthalmia and suppurative hepatitis in a patient affected with dysentery. (Ophtalmie septique et hépatite suppurée simultanées chez un malade atteint de diarrhée endémique des pays chauds.) *Recueil des travaux X^e^ congrès international d'ophtalmologie*, Lucerne, septembre, 1904.

Houdart, of Brest, records the following case: a man, aged 34 years, was invalided from the French navy on account of chronic diarrhœa, acquired in China. One evening his left eye became troublesome, and when he came under Houdart's care, fifteen days later, that eye was found to be blinded by irido-cyclitis with high tension. An incision into the diseased eye gave exit to broken-down tissue and to pus, containing, among other micro-organisms, staphylococci and streptococci. Cultures, however, were not made. Later, the other eye manifested signs of sympathetic disease, and the left eye was accordingly removed. Whilst the patient was under the influence of the anæsthetic, an opportunity was taken of exploring his liver, which had been enlarged for some weeks. Sterile pus was found. Microscopical examination of the enucleated eye showed that the iris was adherent to the posterior surface of the cornea, which was thickened and infiltrated with inflammatory cells. The retina had almost entirely disappeared, and in the small piece that remained, it was impossible to distinguish the layers one from another. The choroid also was hardly better preserved than the retina. Both those structures showed inflammatory centres. Houdart explains his case by assuming that the dysentery from which the patient suffered caused both the abscess of the liver and the septic ophthalmitis. It matters little whether one terms the latter process metastatic or embolic choroiditis or septic retinitis.

Jessop, Walter H.—Sympathetic Ophthalmitis with cystic changes in the Iris. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

In a case of sympathetic ophthalmitis, **Jessop** found, in addition to the usual signs of that disorder, as punctate keratitis and posterior synechiæ, two rounded, semi-transparent swellings (2 mm. by 2·5 mm.) on the outer side of the periphery of the iris. On the nasal side of the iris, moreover, there were a couple of smaller cysts.

Britto, Victor de.—Ophthalmological jottings. (Notes ophtalmologiques.) *Archives d'ophtalmologie*, mars, 1904.

Britto relates at some length cases of (1) epithelioma of the cornea; (2) double orbital meningocele; (3) grave post-operative hæmorrhages into the anterior and vitreous chambers; (4) relapsing intra-ocular hæmorrhage; and (5) recurrent tarsal cysts, cured by excising the Meibomian glands.

Santucci.—A characteristic symptom of tobacco and alcoholic amblyopia. (Un symptôme caractéristique des amblyopies nicotiniques et alcooliques.) *Recueil des travaux X^e congrès international d'ophtalmologie*, Lucerne, septembre, 1904.

Santucci has examined cases of tobacco and alcoholic amblyopia by means of the appliance invented by Professor Reymond, which is formed by combining two perfectly equal Wollaston prisms. The investigations were made (*a*) in full daylight, (*b*) in feeble daylight, (*c*) in the strongest artificial light, and (*d*) in feeble artificial light. Landolt's new optotypes (C-shaped figures) were employed in all the experiments, and in every case ametropia was corrected. Under these circumstances, normal eyes or eyes affected with optical errors or with changes in the fundus were found to recognise a doubling of the image of the optotype as soon as the least displacement was made in the prism—that is to say, under an angle of rotation equal to 180° + 1°. But eyes with toxic amblyopia perceived the duplication under an angle of rotation equal to 180° + 10°, or 180° + 15°, etc., according to the gravity of the disease. Again, if by turning one of the prisms, double or quadruple images were successively produced, that toxic eyes recognise figures of which the luminous intensity was equal to 1 or $\frac{1}{2}$, whilst they can no longer distinguish figures the luminous intensity of which was equal to $\frac{1}{4}$. Santucci suggests that the test may be used to detect feigned or exaggerated defect of sight.

Santucci has employed in the treatment of toxic amblyopia massive injections (20 cc.) into the buttocks, of Chéron's serum, but without any particular measure of success. He has thus been driven back upon the treatment commonly employed in Reymond's clinic, which consists in the gradual suppression of the toxic agent, large doses (1 to 4 grammes a day) of potassium bromide and iodide, and, above all, the subconjunctival injection of strychnine nitrate in the dose of 1 to 2 milligrammes daily. As regards the last point, Santucci claims that the injections produce an immediate and permanent bettering, so that after six or seven injections, the sight, the visual field, and the colour-sense all show marked improvement.

Van, Duyse.—Bilateral and symmetrical Xanthoma of the ocular conjunctiva. (Xanthome double et symétrique des deux conjonctives bulbaires.) *Bulletin de la Société belge d'ophtalmologie*, No. 16, mai, 1904.

Maslennikow.—A case of hysterical amaurosis. (Sloutshai isterisheskago rasstroistwa srenia.) *Wiestnik Ophtalmologii*, No. 4, 1903, and *Revue gén. d'ophtalmologie*, 30 avril, 1904.

Maslennikow describes a very interesting case of hysterical amaurosis in a young girl. Amaurosis was in this case the only sign of hysteria. Complete cure. A. MAKLAKOW.

Bocci, Dante.—Bilateral hysterical amaurosis. (Amaurosi isterica bilaterale.) *La Clinica Oculistica*, Aprile, 1904.

A girl, 19 years of age, the inmate of a religious institution, found that her sight began to fail after a period of heavy study.

She lost all perception of light, and fell into a state of extreme nervous prostration. Headache and buzzing in the ears were complained of. When seen a fortnight later by **Bocci**, the patient presented the gait characteristic of one who had recently become blind. On examination, no perception of light, slight enophthalmos, cornea and conjunctiva anæsthetic, and pupils moderately dilated. Fundus normal: hypermetropia I D. The pharyngeal reflex was absent; hyperæsthetic area in gastric region; upper limbs hypersensitive. A diagnosis of hysterical amblyopia was come to, and the treatment adopted included hypnosis and the suggestion of better sight. The gastric pain subsided and vision was fairly normal within a week. Bocci concludes his communication with some general remarks. upon hysterical blindness, and points out that the bilateral form of the affection is extremely rare, although a case was described as early as the middle of the eighteenth century. Recovery may be gradual or sudden, and although prognosis is favourable, yet the duration of the blindness is variable. ANNIE T. BARNARD.

Tacke, R.—On the spontaneous cure of cataract. (De la guérison spontanée de la cataracte.) *Bulletin de la Société belge d'ophtalmologie*, No. 16, mai, 1904.

Tacke's case, in reality, is one of spontaneous resorption of the lens in a man of 75 years, from whose other eye a cataract had been removed with success. The resorption occupied a year and a half in its evolution, and at its end sight was completely re-established. The author connects cases of spontaneous resorption with a destruction of the epithelium of the anterior capsule of the lens, although he is unable to assign any cause for the latter change. H. COPPEZ.

III.—SUBCONJUNCTIVAL INJECTIONS.

(1) **Süsskind.—A contribution to the differential diagnosis of Cysticercus intra-ocularis. (Beitrag zur Differentialdiagnose des Cysticercus intraocularis.)** *Klin. Monatsbl. f. Augenheilk.*, J. XLI (1903), Band I, p. 158.

(2) **Delbès (Périgueux).—Remarks on a case of Sympathetic Ophthalmia. (Remarques à propos d'un cas d'ophtalmie sympathique.)** *La Clinique Ophtalmologique*, 25 août, 1903.

(3) **Neustatter, Otto.—Essay on subconjunctival injections of 25% Iodipine. (Essai sur les injections sous-conjonctivales d'Iodipine à 25%.)** *La Clinique Ophtalmologique*, 25 septembre, 1903.

(4) Speyr, Th. de.—The action of subconjunctival injections of sublimate in the gonorrhœal ophthalmia of adults. (L'action des injections sous-conjonctivales de sublimé sur l'ophtalmie blennorrhagique de l'adulte.) *Annales d'oculistique*, octobre, 1903.

(5) Alexander, L.—Observations on subconjunctival injections and on injections of Iodipine in particular. (Considérations sur les injections sous-conjonctivales et sur les injections d'Iodipine en particulier.) *La Clinique Ophtalmologique*, 25 octobre, 1903.

(5a) Maslennikow.—Upon subconjunctival injections of Iodoform. (Ueber subconjunctivale Jodoforminjektionen.) *Westnik Ophth.*, 1903, H. II, p. 121, and *Die Ophthalmologische Klinik*, 20 Juli, 1904.

(6) Vacher, Louis.—Dense grey oil for subpalpebral massage, to replace subconjunctival injections in ocular therapeutics. (L'huile grise compacte en massage sous-palpébral, pour remplacer les injections sous-conjonctivales en thèrapeutique oculaire.) *La Clinique Ophtalmologique*, février, 1904.

(6a) Oliveres, A.—Treatment of corneal opacities by subconjunctival injections of benzoate of lithium. (Traitement des taies de la cornée par des injections sous-conjonctivales de benzoate de lithine.) *La Clinique Ophtalmologique*, 10 février, 1904.

(7) Darier, A.—Importance of local therapeutics by subconjunctival injections. (Importance de la thérapeutique locale par les injections sous-conjonctivales.) *Recueil des travaux* X^e *congrès international d'ophtalmologie*, Lucerne, septembre, 1904.

(8) Dufour, Auguste.—Subconjunctival injections of Sublimate. (Les injections sous-conjonctivales de Sublimé.) *Recueil des travaux* X^e *congrès international d'ophtalmologie*, Lucerne, septembre 1904.

(9) Bourgeois, A.—The treatment of infections after the removal of cataract (Le traitement des accidents infectieux après l'opération de Cataracte.) *Recueil des travaux* X^e *congrès international d'ophtalmologie*, Lucerne, septembre, 1904.

(10) Senn, A.—My experiences with the subconjunctival treatment. (Meine Erfahrungen über Subkonjunctivaltherapie.) *Recueil des travaux* X^e *congrès international d'ophtalmologie*, Lucerne, septembre, 1904.

(11) **Foucher, A.—Subconjunctival injections of salicylate of soda in rheumatic iritis. (Injections sous-conjonctivales de salicylate de soude dans l'iritis rhumatismale.)** *L'ophtalmologie provinciale*, août, 1904.

(1) A girl, 9 years of age, had gradually lost the sight of one eye, a failure associated with repeated attacks of inflammation. When examined by **Süsskind**, tension was *minus*, vision equalled hand-movements, and visual field appeared to be contracted upwards. Slight ciliary congestion; cornea dullish; and membranous formations were present in the cloudy vitreous humour. Tubercle of the choroid was suspected, owing to the tuberculous family history, and the case was treated with iodine internally, and by subconjunctival injections of 4 % sodium chloride locally. The result, contrary to expectation, was good. After six subconjunctival injections, the vitreous humour had become clear enough to allow of a cysticercus being recognised in the lower and inner part of the fundus, lying apparently beneath the retina. A tænia solium was passed a few days before the eye was operated on. At the operation a flap of conjunctiva was reflected, and the sclera incised over the position of the parasite, which escaped without difficulty from the eye. After the operation the vitreous cleared completely, and tension became normal, but sight did not improve correspondingly (fingers at 2 *mètres* with eccentric fixation), owing to a limited detachment of the retina. Süsskind advises the subconjunctival injection of saline solution for the purpose of clearing up the diagnosis of obscure cases. S. S.

(2) **Delbès** relates the case of a boy of ten, who, four-and-a-half years after getting a chip of steel into one eye, developed sympathetic papillo-retinitis, irido-cyclitis, and cataract. The cataract did not form until some months after removal of the injured eye, and the lens was extracted along with its opaque capsule without loss of vitreous. Ultimate V.=$\frac{1}{15}$. The author draws attention to the fact that in the course of treatment of the "sympathiser," sub-conjunctival injections of saline always resulted in an improvement of vision, which was, however, only temporary. W. ERNEST THOMSON.

(3) The main fact in **Neustatter's** article (a translation into French) is that in using iodipine in oily solution for subconjunctival injection, the oil absorbs very slowly; so much so that in the case described it was necessary, on account of the peculiar "melted grease which had congealed" aspect at the external canthus, to incise the tumour and to evacuate the grease. W. ERNEST THOMSON.

(4) A man, aged 26 years, presented a conjunctivitis of one eye, in the discharge from which gonococci were found. The cornea was intact. Epididymitis coexisted with the ophthalmia. Sublimate lotion (1 : 2,000), iced compresses, and atropine—and, later, itrol—were used to the inflamed eye, but in the course of five days a small ulcer appeared on the cornea. The ulcer became larger, a fact that led **Speyr** to inject subconjunctivally three décigrammes of a 1 : 2,000 solution of corrosive sublimate. This speedily brought about a remarkable improvement in the state of the eye. The injection (35 centigrammes) was repeated, and the ulcer disappeared eight days after it was first noticed. The ophthalmia was cured in twenty-five days. H. DE V.

(5) After preliminary remarks upon subconjunctival injections in general, **Alexander** states that he tried injection of iodipine in oily solution. He found that the oil forms a tumour which is exceedingly slow of absorption, and he has given up the method " because . . . . iodipine as a subconjunctival injection acts no quicker than when given by the mouth." W. ERNEST THOMSON.

(5a) Impressed with the good results obtained by Ostwalt and Haab by the introduction of iodoform into the anterior chamber,* **Maslennikow** has undertaken experiments in purulent corneal processes by injecting a solution of the remedy beneath the conjunctiva. The corneæ of rabbits were inoculated with pure cultures of the streptococcus pyogenes brevis and the staphylococcus pyogenes aureus, so as to induce the desired lesions. A freshly prepared solution of iodoform in ether or oil was employed. In human beings the former solution only was used, and two or three divisions of the syringe were injected. The cornea was protected against surplus fluid escaping during the injection by first filling the conjunctival sac with water. The injection, which causes temporary pain, is followed by marked œdema of the conjunctiva and often of the eyelids, persisting for some days. Redness of the conjunctiva lasts longer, and subconjunctival hæmorrhages are now and then seen. Four rabbits, and seven patients, suffering from purulent corneal ulcers (2) and hypopyon-keratitis (5), were treated, always with satisfactory results. The ulcers healed with the production of a small macula only. Improvement set in within two or three days. Complications were never observed. O. WALTER (Odessa).

(6) **Vacher** has obtained good results in several affections of the eye from the frequent local use of a mercurial ointment, the

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*See p. 386 of the present number of THE OPHTHALMOSCOPE.

formula of which is as under: purified mercury, 27; strong mercurial ointment, 6; anhydrous lanoline, 45; oil (vaseline or almond), 22. Mercurial massage acts in two ways: mechanically by modifying the circulation, and medicinally by causing the absorption into the eye of a certain amount of mercury. According to the part it is desired to reach, the remedy should be applied in different ways. Thus, in an infected ulcer of the cornea, the ulceration should first be scraped, then be filled with the ointment, and, finally, be directly massaged with a blunt glass rod, in order that the mercury may penetrate into the edges of the lesion. In serous iritis radial massage of the cornea should be employed, so as to facilitate the rupture of synechiæ and to act upon the vessels of the iris. In chorio-retinitis, peripheral circular massage must be adopted. In ulcerous blepharitis, massage of the edge of the eyelids with grey oil is a very active means of treatment. The crusts are first removed, and then the inflamed parts are rubbed with the mercurial oil placed upon a morsel of wool or a piece of glass rod. The process is repeated daily or every second day. In the superficial kerato-conjunctivitis, so common in poor children, mercurial massage yields marvellous results. Vacher also reports good results from this treatment in the choroidal complications of high myopia. Lastly, the mercurial massage is claimed to be simple, painless, and easy of home use. The reviewer would add that the method is not new, and that it cannot replace all other plans of treatment, especially the subconjunctival injection, which constitutes one of the greatest therapeutical advances of recent years.

A. DARIER.

(6a) **Oliveres**, encouraged by the favourable results obtained by Mazet* with collyria of benzoate of lithium, has treated some cases by subconjunctival 1 per cent. injections. The object of the treatment is to remove any calcareous salts which may be deposited in the layers of the cornea. The result in each of the three cases was to improve vision up to a certain point, but not beyond that point, no matter how many injections were made. Patient I., aged 15 years, improved from $\frac{1}{15}$ to $\frac{1}{7.5}$ after three injections. Patient II., aged 45 years, improved from $\frac{1}{15}$ to $\frac{1}{7.5}$ after five injections. Patient III., aged 20 years, improved R. from $\frac{1}{10}$ to $\frac{1}{6}$ after three injections, L. from $\frac{1}{6}$ to $\frac{1}{3}$ after four injections. The injections did not produce any irritation.

W. ERNEST THOMSON.

(7) After quoting Professor Bouchard's views with regard to the advisability of applying remedies, specific or otherwise, as near to a focus of disease as possible, **Darier** passes on to

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*See THE OPHTHALMOSCOPE, Vol. I. (1903), p. 153.

consider subconjunctival injections in the treatment of diseases of the eye. The experiences of Mellinger and of Wessely are quoted. Darier insists upon the fact that these injections are not a panacea for all ocular maladies, but that they occupy much the same position in regard to local ocular therapeutics as hypodermic injections do in regard to general therapeutics. After an injection of 5 per cent. sodium chloride, the aqueous humour contains considerably more albumen and fibrin than it did before (Wessely). We now know that healthy serum includes a great number of protective substances (*Schützstoffen*), which play an important part in the struggle against infective elements, and it is possible that these substances are more abundant in the aqueous humour when its composition is changed by subconjunctival injections. This may account for the beneficial action of the injections in chronic iridocyclitis and in commencing keratitis, although it does not explain the good results obtained in affections of the vitreous, detachment of the retina, choroidal exudations, and so forth. But we are not at liberty to deny the facts merely because the explanation has so far escaped us.

(8) **Dufour** enthusiastically praises the subconjunctival injection of corrosive sublimate in ocular therapeutics, a method that he has practised since the year 1892. He insists upon absolute rest, with bandaged eyes, after the little operation. Dufour prefers small to large injections, and hence never administers more than half a syringeful (10 drops) of the liquid. He employs sublimate in 2 per cent. solution, and prefers it to the cyanide salt. The exact strength of the solution varies according to the nature of the disease and its duration. For example, for an acute affection a 1:2,000 solution may be employed, while for a chronic affection solutions ranging in strength from 1:3,000 to 1:10,000 are preferable. Dufour advises that this plan of treatment be given up if eight injections have not made a distinct impression upon the disease. It is true that acoine cannot be added to sublimate solutions, but, in the author's opinion, that matters little, since he has been disappointed with acoine as a means of mitigating the pain of the injections. Amongst the maladies in which the method has yielded good results may be enumerated ulcers of the cornea (with or without hypopyon), interstitial keratitis, vitreous opacities, infective injuries, and especially macular choroiditis. Following the example of Speyr (*see ante* No. 4), Dufour obtained a good result in the case of an adult, whose cornea was gravely involved in the course of a gonorrhœal conjunctivitis.

(9) **Bourgeois** makes a practice of dressing his cataract cases two days after the operation, or even sooner if there

be any reason for thinking that all is not going well. The treatment of infections, if such be present, may at that early stage be really efficacious. There are, according to the author, two kinds of infection; first, the more serious, beginning in the cornea within twenty-four hours after operation; secondly, the less serious, beginning in the uveal tract from the fifth to the eighth day after extraction. The only efficacious treatment, Bourgeois thinks, is by the subconjunctival injection of corrosive sublimate, or, better still, of mercury cyanide. A 1:1,000 solution of the cyanide is injected deeply beneath the conjunctiva in the neighbourhood of the external canthus. In severe cases this is repeated night and morning seven or eight times. Four or five injections serve to arrest the milder infections. Cessation of pain is taken as an indication that injections may be suspended. Bourgeois' treatment also includes instillations of atropine, periorbital inunctions of mercurial and belladonna ointment, cauterisation or scraping of the corneal wound, and dressing of the eye with iodoform, aristol, and especially airol. The dressings are renewed at least twice a day. Pain is relieved by antipyrine. Marmorek's anti-streptococcic serum was tried once by the writer, but without success. To Bourgeois' communication is appended a list of six cases (four severe and two mild) treated by the foregoing means without the loss of a single eye.

(10) Subconjunctival injections are to-day a favourite topic for discussion, and **Senn**, who describes their action in 330 cases, has become one of their most enthusiastic advocates. The only drawback he ever saw from their use consisted in a partial obliteration of the subconjunctival space, which, however, did not give rise to any ill-effects. Moreover, acoin should not be added to the solutions in eyes with a tendency to increased intraocular pressure. Senn injects full syringes of either sod. chloride (2 and 4 per cent.) or cyanide of mercury solutions (1:5000), the former in cases of (1) herpes corneæ; (2) traumatic keratitis; (3) corneal ulcer; and (4) retinal hæmorrhages. He uses the cyanide of mercury in all the other conditions enumerated below, either alone or, in cases of syphilitic origin, in conjunction with general treatment. (1) Diseases of the fundus, such as choroiditis, retinochoroiditis, and, above all, the macular changes of myopic eyes. In pigmentary degeneration and detachment of the retina, the results obtained were not quite as convincing as in the first-named conditions. (2) Corneal affections: ulcus serpens with hypopyon and interstitial keratitis. (3) Scleritis. (4) Opacities of the vitreous. (5) Iridocyclitis, especially following injury or operations.

C. MARKUS.

(11) **Foucher** recommends the subconjunctival injection of six drops of a 1 % solution of sodium salicylate in the treatment of certain rheumatic affections of the eye, notably in iritis. This method he has adopted in four cases, namely, three of iritis and one of rheumatic pain and redness of the eyeball. The result was good in every instance. Foucher mentions a fifth case, one of iritis associated with considerable pain, where the injection was made, not beneath the conjunctiva but into the temple. The result was equally good. H. DE V.

IV.—INTRODUCTION OF IODOFORM INTO THE EYE.

(1) **Ricchi, G.—Anatomico-pathological researches into the effects of introducing iodoform into the anterior chamber. (Recherches anatomo-pathologiques sur les effets de l'introduction d'iodoforme dans la chambre antérieure.)** *Archives d'ophtalmologie*, janvier, 1904.

(2) **Ostwalt, F.—Remarks upon the above** ***mémoire.*** ***Ibidem***, février, 1904.

(1) Ostwalt (*Arch. f. Augen.*, 1897), was the first to show that intraocular infections could be combated by the introduction of iodoform into the anterior chamber. His experiments were made on rabbits. Since then the method has been adopted clinically by Haab, Goldzieher, Romer, Knur, and others. The same plan has been carried out by Weill in cases of tuberculous iritis. In the present communication **Ricchi** studies the histological changes that follow the introduction into the anterior chamber of adult rabbits of (a) Haab's little rods (*bâtonnets*) of iodoform; (b) sterilised rods of gelatine; and (c) finely pulverised iodoform. The substance selected was introduced through a small linear incision in the upper part of the limbus, naturally under careful antiseptic precautions. After the small operation, pilocarpine drops were used, in order to lessen the chances of the iris becoming entangled in the wound. After a variable time, the eyeballs were fixed in a 5 per cent. solution of sublimate. The macroscopic effects noticed after the introduction of the *bâtonnets* were as follows: a few hours after the operation the little rod became coated with exudation and began to dissolve. The iodoform then became deposited at the bottom of the anterior chamber. The rod had disappeared completely at the end of a month. In two cases contact with the foreign substance led to the formation of a whitish line in the iris. A few hours after operation Ricchi noticed in almost all the animals, many small hæmorrhages upon the surface of the iris,

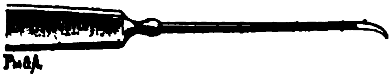
and upon section of the eyeball, similar changes were found upon the posterior surface of the iris and the ciliary body. Another appearance noted was vascularisation of the inferior segment of the limbus, invading the cornea, and thus covering the iodoform lying at the bottom of the anterior chamber. The histological changes which followed the operations may be shortly epitomised as under; the corneal endothelium was quickly shed at the spot or spots against which the iodoform or gelatine rested, a result doubtless due to the traumatism inevitable on introducing any solid substance whatever into the anterior chamber. Fibrinous exudations were also seen at the places denuded of endothelium. The rest of the cornea manifested leucocytic infiltration and hypertrophy and necrosis of certain of the fixed cells. When resorption of the iodoform *bâtonnet* was tardy, the iris showed disappearance of many of the stromal nuclei and of those belonging to the vessels, and multiple interstitial hæmorrhages. These results are regarded by Ricchi simply as the outcome of the pressure exercised by the *bâtonnet*. The author suggests that two of the lesions described by him may be the direct result of iodoform, as contrasted with an indifferent substance like gelatine, *viz.*, (1) a fibrinous exudation at the spots denuded of endothelium, and (2) an infiltration of leucocytes in the endothelium at the bottom of the anterior chamber.

(2) **Ostwalt** explains that he now introduces small soloids of iodoform into the anterior chamber through a corneal incision. He claims priority as regards the use of these pellets.

V.—OPERATIONS.

De Lapersonne, F. and Poulard.—Upon early posterior Discission. (De la discission postérieure précoce.) *Recueil des travaux X^e congrès international d'ophtalmologie*, Lucerne, septembre, 1904.

De Lapersonne and **Poulard** dwell upon the advantages of an early discission of the posterior capsule after the removal of cataract. Most of the failures in needling practised at a late stage are due, they think, to the loss of elasticity in the lips of the capsular incision. In suitable cases the authors resort to the following operation from the eighth to the fifteenth day after the removal of cataract. Under careful antiseptic or aseptic precautions, the eyelids are separated by means of a speculum, the eyeball is fixed by forceps, and the parts are illuminated by an electric lamp. A special needle, made by Lüer of Paris (*see* figure), is inserted into the sclera at the level of the vertical meridian of the eye, 1 mm. to 2 mm. above the summit of the original flap made during the extraction. The point of the instrument is directed towards the centre of the globe, the cutting edge being turned forwards. When the centre of the eye appears to be reached, the needle is so managed as to bring out its point exactly at the level of the lower edge of the dilated pupil. The cutting point thus splits the capsule from behind forwards, and not a drop of the aqueous humour escapes. The needle is then gently withdrawn, keeping the point projecting forwards, and in that way the sharp edge divides the capsule, making a large breach in the latter, of which the lips at once separate. De Lapersonne and Poulard have so far performed the operation described above on thirteen patients from the sixth to the seventeenth day after the combined operation for cataract. The sight of these patients, when corrected with suitable glasses, ranged from ⅓ to 1. They regard the twelfth day as the most favourable time for the intervention.



H. DE V.

Bahr, C.—A plea for early extraction after the artificial maturation of senile cataract. (Ueber Frühoperation nach Staarreifungen.) *Recueil des travaux X^e congrès international d'ophtalmologie,* Lucerne, septembre, 1904.

Bahr's experience, based upon some twenty cases, goes to show that extraction is feasible a few days after the artificial ripening of cataract. The fifth day appears to be the most suitable for the operation. Bahr by this method has saved his patients some obvious inconveniences, and at the same time has seen no drawbacks accrue from the procedure. The treatment is best suited to patients not more than fifty years old, who have soft cataracts with small nuclei. In following Förster's plan of trituration, Bahr takes care to secure a complete escape of the aqueous humour, and, in cases where a large nucleus is present, performs an iridectomy. As a considerable amount of trituration is needed, there is some risk of a partial luxation of the lens. Finally, atropine is dropped into the eye, inasmuch as posterior synechiæ are apt to form. Bahr found that cataract thus ripened may be readily extracted at an early date; that the wound healed promptly; and that the cases yielded gratifying results.

C. MARKUS.

Hoffmann, von.—Wedge-shaped excision of a small piece of mucous membrane—an improvement upon Bowman's slitting of the canaliculus. (Keilförmige Excision (eines Schleimhautstückchens).—Eine Verbesserung der Bowmanschen Schlitzung.) *Recueil des travaux X^e^ congrès international d'ophtalmologie,* Lucerne, septembre, 1904.

Hoffmann, of Baden-Baden, recommends a modification of Sir William Bowman's operation of slitting the canaliculus, since the latter, he says, is not always effective. Briefly stated, the so-called "improvement" consists in removing with forceps and scissors a wedge-shaped piece of mucous membrane from the posterior lip of the slit canaliculus. English readers will recognise in this procedure the plan recommended many years ago by the late Mr. Haynes Walton.

Schulte.—Upon the Hotz entropion operation. (Zur Entropium-Operation nach Hotz.) *Die Ophthalmologische Klinik,* 10 April, 1904.

Having failed to obtain good results from the Hotz operation for entropion, **Schulte** has made certain modifications in its performance, for details of which see the original communication. MAX P.

Bruns, Henry D.—Removal of the lens in high Myopia. *Recueil des travaux X^e^ congrès international d'ophtalmologie,* Lucerne, septembre, 1904.

Bruns has removed the crystalline lens nine times in the treatment of high myopia.

Fulton, J. F.—Operative treatment of posterior synechia. *Ophthalmic Record,* July, 1903.

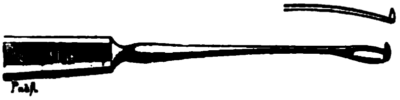
Fulton recommends that after the anterior chamber had been opened by a spade knife, synechiae should be broken up by means of a blunt-pointed crook. This latter instrument is made by Meyrowitz, of New York.

(1) **Bettremieux.—A new Cystitome. (Un nouveau Kystitome.)** *Bull. de la Société belge d'ophtalmologie,* No. 16, mai, 1904.

(2) **Bettremieux.—The division of posterior synechiæ. (La Synéchitomie postérieure.)** *L'Ophtalmologie Provinciale,* août, 1904.

(1) **Bettremieux's** cystitome, as shown by the accompanying figure, has the form of an oval fenestrated loop, to one end of which is attached a small blade, set somewhat obliquely,

so that its point is directed towards the handle of the instrument. It is, in fact, an ordinary cystitome, of which the shank is reduplicated. When the instrument is introduced into an eye, the non-cutting edge of the blade comes into contact with the lens, and on withdrawing the cystitome from the eye, the cutting edge freely incises the capsule without any risk of making too deep a discission. The great advantage of the instrument, however, lies in the fact that, guided by the loop, the blade always presents in a plane exactly perpendicular to the surface of the capsule. H. Coppez.



(2) By means of the small instrument figured above, **Bettremieux** divides adhesions between the iris and any crystalline *débris* left after the removal of cataract. The curette is introduced through a peripheral corneal incision, and the adhesions are severed with the cutting end of the instrument.

VI.—REMEDIES.

Rogman.—Upon preventive serotherapy in the operation for cataract. (Sur la sérothérapie préventive dans l'opération de la cataracte.) *Bulletin de la Société belge d'ophtalmologie*, No. 16, mai, 1904.

Rogman combines Menzer's anti-streptococcic serum with Roemer's anti-pneumococcic serum, and injects 5 c.c. to 10 c.c. of the mixture the night before operating for cataract in suspicious cases. At the same time, he neglects none of the other precautions, such as extirpating the lacrymal sac. In the two cases where Rogman employed these injections, the results of operation were perfectly normal. H. Coppez.

Emmert, E.—On the treatment of severe eczematous affections of the cornea. (Zur Behandlung schwerer ekzematöser Hornhauterkrankungen.) *Recueil des travaux X^e^ congrès international d'ophtalmologie*, Lucerne, septembre, 1904.

Emmert treats the more severe eczematous affections of the cornea by means of the following ointment: protargol, 2.0; hyoscin. hydrobrom., 0.05, or eumydrin, 0.1; vaseline or lanoline, 40.0. The remedy is smeared on a piece of folded linen, and the eyes and the neighbouring parts are covered with the medicated dressing, kept in place by cotton wool and a towel. The appliance is usually applied before going to bed, and kept on all night. Ordinary remedies are used later in the course of the disease. S. S.

Roberts, G. Lloyd.—Didymin in exophthalmic goitre. *British Medical Journal*, January 2nd, 1904.

Roberts has obtained good results in five cases of exophthalmic goitre by the administration of didymin tabloids, 10 to 20 grains, daily.

Rahn, A.—Upon the precautions necessary in administering antipyretics. (Welche Vorsicht lehren uns die Antipyretica ?) *Medicinische Woche*, 2 mai, 1904.

Untoward effects, as well known, occasionally follow the administration of such valuable antipyretics as aspirin, salipyrin, phenacetine, and antipyrin. **Rahn** explains these results by dietetic or alcoholic indiscretions preceding, accompanying, or following the giving of the medicament.

Dor, L.—Orchitic opotherapy. (L'opothérapie orchitique.) *Recueil des travaux Xe congrès international d'ophtalmologie*, Lucerne, septembre, 1904.

The fact that castration performed in infancy produces an exaggerated development of the skeleton (Pirsche, *Thèse de Lyon*, 1902) led **Dor** to try if the injection of testicular juice would give rise to the opposite effect, namely, retardation of growth. To this end experiments were undertaken by Maisonnave (*Thèse de Lyon*, 1903) upon three young rabbits belonging to a litter of four, the last being used as a control. Each of the rabbits selected for experiment received in the course of four months 41 cc. of the orchitic fluid prepared by Jacquet. At the end of that period the control rabbit weighed 500 grammes more than the other animals, and its bones were heavier and larger. These experiences induced Dor to administer tablets of orchitic substance to five children, in whom rapid growth was associated with symptoms of asthenopia. In the sequel, the growth of the patients was retarded or actually inhibited, and the asthenopia improved. Dor concludes that the injection of orchitic extract arrests growth, and that 3 grammes of fresh testicles represent the average daily dose.

Darier, A.—Four years' experience of Dionine. (Vier Jahrige Erfahrungen über Dionin.) *Die Ophthalmologische Klinik*, 5 Juli, 1904.

Powdered dionine, according to **Darier**, should not be allowed to come into direct contact with the cornea, and before applying it, the susceptibility of the patient should be tested with 2 per cent. or 5 per cent. solutions. The drug has been used with success in the following conditions : (1) some forms of chronic conjunctivitis ; (2) corneal affections ; (3) glaucoma, together with physostigmine ; (4) episcleritis, iritis, and irido-choroiditis ; (5) detachment of the retina, in the form of subconjunctival injections ; (6) in connection with operations, as glaucoma and iridectomy, to enhance the action of cocaine ; on the third or the fourth day after extraction of cataract, to promote cicatrisation ; and to loosen foreign bodies embedded in the cornea before their removal.

C. MARKUS.

Galezowski.—The hydrobromide of arecoline as a myotic. (La bromhydrate d'arécoline comme myotique.) *Recueil d'ophtalmologie*, XXV (1903), p. 112.

Galezowski employs a ½ % solution of arecoline hydrobromide as a myotic in glaucoma. The new agent appears now and then to give rise to considerable irritation of the conjunctiva.

H. DE V.

VII.— MISCELLANEOUS.

Grósz, Emil von.—The fight against Trachoma in Hungary. (Die Bekämpfung des Trachoms in Ungarn.) *Recueil des travaux Xe congrès international d'ophtalmologie*, Lucerne, septembre, 1904.

After reviewing the historical facts ot the fight against trachoma conducted in Hungary since the year 1883, **Grósz** describes the organisation and the measures now in force. The latter offer nothing very novel, unless it be the pious suggestion that the prevention of trachoma should be made a matter of international concern.

Morax, V.—Ophthalmological Nomenclature. (La nomenclature ophtalmologique.) *Recueil des travaux Xe congrès international d'ophtalmologie*, Lucerne, 1904.

Morax, anxious to facilitate reference and universality of comprehension, believes that the original name of any method or disease should not be modified, unless it be in the sense of adding (in parenthesis) the name of the author ; that if no name has been bestowed by the original observer, the first designation proposed thereafter should be adopted ; and, finally, that the International Congress of Ophthalmology should nominate a Commission charged with the duty of registering all new designations and of publishing a list of them at each quinquennial gathering.

STANDARDISATION.

(1) **Hummelsheim, Ed.—A plea for a uniform designation of the ocular meridians. (Zur Einigung über die Meridianbezeichnung.)** *Recueil des travaux Xe congrès international d'Ophtalmologie,* Lucerne, septembre, 1904.

(2) **Knapp, H.—On the Symmetry of our Eyes. (Symmetrie unseres Augenpaares.)** *Recueil des travaux Xe congrès international d'Ophtalmologie,* Lucerne, septembre, 1904.

(3) **Emmert, E.—On the position of the axes of cylinders in astigmatism. (Axenstellung bei Astigmatismus.)** *Recueil des travaux Xe congrès international d'Ophtalmologie,* Lucerne, septembre, 1904.

Hummelsheim (1), **Knapp** (2), and **Emmert** (3), although each favouring a different system, all emphasize the need of a remedy for the present diversity in denoting astigmatism and visual fields by adopting a universal, and for the corneal and retinal meridians, identical method of designation. Emmert also refers to the frequent variation of the patient's choice as to a cylinder's axis from the data arrived at by the use of the ophthalmometer, for which no explanation can at present be offered. C. MARKUS.

REVIEWS.

Première Livraison du Recueil des Travaux Xe Congrès international d'ophtalmologie, 1904. GEORGES BRIDEL ET CIE., Lausanne.

This preliminary volume* of 192 pages (issued without either table of contents or index) represents in brief some of the communications that will be presented to the International Congress of Ophthalmology, when that body assembles at Lucerne on the 13th of September, 1904. It contains thirty-eight papers in the four official languages, namely, English, French, German, and Italian. For the convenience of such readers as may attend the Congress, many of these communications will be found abstracted in the present number of the OPHTHALMOSCOPE. The volume contains several illustrations.

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*Whilst at press, a second volume of *Reports*, containing twenty-three communications, has reached us. A third volume is promised.—EDITOR.

Catalogue général des Thèses françaises d'ophtalmologie. Publié, sous la direction du Dr. H. Truc, par A. Jalabert et P. Chavernac, aides de clinique ophtalmologique. Deuxième édition. Montpellier: Imprimerie Delord-Boehm et Martial. 1904.

Much of the French ophthalmological literature is to be found buried in the theses presented to the Universities of Paris, Bordeaux, Lyons, Montpellier, Nancy, Toulouse, Lille, and Strassburg. The volume before us contains a list of these theses classified alphabetically, and also under the authors' names. Both these indices are arranged in chronological order. The book should prove useful to those engaged in compiling bibliographies.

The Ophthalmic Year-Book.—By Edward Jackson, A.M., M.D. The Herrick Book and Stationery Company, Denver, Colorado, 1904.

We extend a cordial welcome to the *Ophthalmic Year-Book*, written by Dr. Edward Jackson, of Denver, and published by the Herrick Book Company of the same city. It contains a critical digest of the literature of eye work, together with an index of publications for the year 1903. Its 260 pages include a prodigious amount of material, nicely put together, and written in the clearest and most consecutive way possible. The volume includes one coloured plate, and upwards of forty cuts in black and white. There are separate chapters on Refraction, Accommodation (spelled "Accomodation," by the way, in the table of contents), Ocular Movements, Diseases of the Conjunctiva, Cornea, Sclera, Uveal Tract, Retina, Optic Nerve, Crystalline Lens, Vitreous, Lids, and Toxic Amblyopias, Glaucoma, Lacrymal Apparatus, Pupil, Orbit, Tumours, Injuries, Sympathetic Disease, General Ophthalmology, and Operative Measures. The book terminates with several indices, the first giving a classified list of books and monographs issued during the year 1903; the second doing the same for the journal-articles; and the third giving a general index to the contents of the volume. The sub-editing has clearly been of a careful character, although to an English eye the abbreviated "tho" and "altho," which appear frequently in the pages, have a singularly unfinished look. The *Ophthalmic Year-Book* is indispensable to all who wish to keep abreast of the progress of ophthalmology. Dr. Jackson is to be congratulated upon having conceived so useful a volume.

CORRESPONDENCE.

While *The Ophthalmoscope* will at all times welcome correspondence from its readers, the Editors do not hold themselves responsible for any views expressed in this column.]

To the Editors of THE OPHTHALMOSCOPE.

DEAR SIRS,—Not long ago, when attempting to look up the literature relating to a certain point, it was easy to find several references to the subject, but as the articles were scattered through various periodicals—some of them rare - it was difficult to obtain the books. After some little trouble and expense in having one of the volumes sent from the library of the Surgeon-General's Office in Washington, I happened to learn that it was also in the library of a colleague much nearer home. Doubtless other students of ophthalmology have had similar experiences.

It occurred to me, therefore, it might be worth while to send a circular letter to libraries, to ophthalmic hospitals, and to ophthalmologists in this country and in Great Britain, to ascertain *where* the periodicals could be found which we all wish, at times, to consult.

Then it would be easy to tabulate the replies according to cities and to publish them. As THE OPHTHALMOSCOPE probably reaches a larger number of readers in England and in the United States than any other publication of the kind, I venture to ask you what co-operation could be expected from it in any such plan, or what suggestions for a better one could you, or any one of our colleagues offer ?

I am, Sirs, yours faithfully,
LUCIEN HOWE, M.D.

183. Delaware Avenue,
Buffalo, New York,
August 8th, 1904.

NOTES AND ECHOES.

Annals of Ophthalmology.

LAST month we alluded to the strained relations between the publisher of the *Annals of Ophthalmology*, on the one hand, and the editorial staff, on the other. As the result of this friction we understand that the *Annals* will in future be edited by Dr. James Moores Ball, of St. Louis, while the former editor, Dr. Würdemann, will bring out a new journal, to be called " Ophthalmology," in October next.

* * * *

Accident to Mr. Ernest Clarke.

THE *Medical Press and Circular*, which is generally well informed in personal matters, published the following note early in August. " Mr. Ernest Clarke, Chandos Street, Cavendish Square, London, while passing through Walton last week on a motor car, was struck on the neck by a shot apparently from a gun, but no trace of the offender can be found. Mr. Clarke, fortunately, was not seriously hurt."

* * * *

Section of Ophthalmology at Oxford, July, 1904.

AN excellent and well-attended meeting of this particular section was held under the genial presidency of Mr. R. W. Doyne, Reader in Ophthalmology in the University of Oxford. Most of the members were housed in Keble College, which, if not one of the most picturesque of the Oxford colleges, is certainly one of the most comfortable. The list of distinguished foreign guests included Professor Hirschberg, of Berlin, and Dr. C. A. Oliver, one of the editors of THE OPHTHALMOSCOPE. Unfortunately Dr. E. Javal, the author of that pathetic book *Entre Aveugles*, another official guest of the Association, could not come on account of illness. Among the foreigners present were Dr. Koller (the discoverer of cocaine), Dr. Lucien Howe, Dr. S. D. Risley, Professor Uhthoff, Dr. C. H. Burnham, Dr. E. Landolt, Dr. F. M. Wilson, and Dr. F. W. Marlow, the American correspondent of THE OPHTHALMOSCOPE. The business of the sectional meetings was so well arranged that the last paper finished as the clock struck one on the final day. The feature of the meeting was the admirable demonstration given by Professor Poulton, F.R.S., on imitation of natural objects, such as leaves, by certain insects, and the conclusions he drew from such mimetic traits as to the sight of those animals. It was a pity that so few of the members found time to visit the Oxford Eye Hospital, a few minutes' walk only from Keble College, where the President and his colleague Mr. F. M. Ogilvie had got together a most interesting and varied selection of cases. Altogether, the Oxford meeting must be pronounced an unqualified success. In order to mark their sense of the courtesy of the governing body of Keble, the members of the section of ophthalmology subscribed for a piece of silver plate to be presented to the common-room of the College.

* * * *

Museum.

IN the museum attached to the section of ophthalmology were many interesting exhibits, including ophthalmoscopic drawings, jelly specimens, microscopical sections, colour apparatus, and so forth. Messrs. Pulman showed interesting reproductions of internal and external eye conditions by the tri-colour process. The reproductions were generally admired, and in point of price and quickness of execution they compare most favourably with the lithographic process. Instruments were shown by Messrs. Down Bros.; optical and scientific apparatus by Messrs. C. Zeiss and the Anglo-American Optical Company; as well as new remedies and several useful eye appliances by Mr. W. Martindale. Messrs. Dixey and Son exhibited their face-measuring apparatus, and a new Franklinic lens of ingenious construction.

Middlemore Prize. UPON the recommendation of a sub-committee, appointed by the British Medical Association to consider and report upon recent work in ophthalmic surgery, the Middlemore Prize has been awarded to Mr. J. H. Parsons. The work which gained the prize was of an extremely learned, accurate, and painstaking nature. It included investigations on the course of fibres in the optic nerve, on the influence of the cortex cerebri on movements of the pupil, and the intraocular circulation. The actual presentation took place, during the annual meeting of the Association at Oxford, in the Sheldonian Theatre.

* * * *

The Magnet. MEDICAL men get so accustomed to the surroundings of the operating room that it is interesting now and then to see ourselves as others see us. The following clipping from a provincial paper gives a startling picture of Haab's giant magnet:—"In the new eye pavilion of Edinburgh Infirmary there has lately been fitted up in one of the theatres one of the most alarming objects with which a patient can be confronted, suggesting some sort of electric gun and steam hammer combined. As a matter of fact, it is a powerful electro-magnet. When a piece of steel or other magnetic metal has buried itself in the eyeball no oculist could hope to remove it by the knife without destroying the eye; but nowadays such a magnet as this is placed opposite the eye, the current is turned on, and out flies the intruder, with the minimum of danger, damage, pain, and time."

* * * *

"Eye-Glass Remedy." THE swing of the pendulum has come with a vengeance indeed. For a generation the ophthalmologist crying aloud the reflex perils of "eye-strain" was as the voice of one crying in the wilderness. Nowadays all obscure and many ordinary symptoms are attributed to the malign influence of errors of refraction and other visual defects. Inebriety was practically almost the only serious condition that some enthusiast or other had omitted to ascribe to an ophthalmic origin. Now the gap has been filled by Dr. Chalmers Prentice, a prominent Chicago oculist, who has declared solemnly to the National Opticians' Convention in Milwaukee that alcoholism can be cured by properly fitted eyeglasses. He found that inebriates generally suffer from certain deviations in the accommodation and convergence of the eyes, and he had noticed in many cases that glasses which remedy these derangements of sight had also the effect of diminishing the patients' appetite for liquor. Dr. Prentice described a case of an inebriate being fitted with glasses and losing all desire for strong drink after thirty days. Can there be a grain of truth hidden in this bushel of apparent nonsense? For instance, has headache driven the sufferer to drink, and does Dr. Prentice remove the cause?

* * * *

Deaths.

AMONG recent deaths we regret to note that of the distinguished physician, Dr. Carl Genth. In conjunction with Professor Pagenstecher, he compiled the well-known *Atlas der Pathologischen Anatomie des Augapfels*, the text of which was translated into English in 1875 by Sir William Gowers. Friedrich Heisrath died on July 12th, 1904, at the early age of 54 years. This accomplished ophthalmic surgeon was perhaps best known by his contributions to the surgical treatment of trachoma, of which the principal ones appeared in 1882 and 1895 respectively. He practised at Königsberg, where he had previously studied under Professor Julius Jacobson. Lastly, the death is announced, at the age of 72 years, of a distinguished French colleague, Professor C. A. Gayet, as the result of a carriage accident. He was one of the best-known of the provincial ophthalmic surgeons of the sister country, and had occupied the chair of ophthalmology at Lyons University since its foundation in 1876. He was an able operator and a voluminous writer.

* * * *

Ophthalmological Congress at Lucerne.

FOR the convenience of members of the British section of the International Congress of Ophthalmology, Dr. H. S. Lunn, of 5, Endsleigh Gardens, N.W., is organising a tour to Lucerne. The parties, which must consist of at least thirty members, leave London on September 9th and 10th, and travel *via* Folkestone and Boulogne. The following terms include return tickets from London to Lucerne and hotel accommodation for seven days:—

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ORIGINAL COMMUNICATIONS.

A CASE OF CONGENITAL WORD-BLINDNESS.*

BY
JAMES HINSHELWOOD, M.A., M.D.
SURGEON TO THE GLASGOW EYE INFIRMARY.

THAT the ophthalmic surgeon should be familiar with all the varieties of cerebral defects of vision is very evident from the fact, that out of five cases of congenital word-blindness four have been seen by me in the Glasgow Eye Infirmary. The following case is the last which has come under my notice, and affords an excellent example of the congenital cerebral defect which I have described by the term "word-blindness." I have thought the subject, both from its novelty and importance, worthy of being brought under the notice of the Ophthalmological section of the British Medical Association.

A boy, 12 years of age, was brought in March, 1902, to the Eye Infirmary by his mother, to see if there was anything wrong with his eyesight. The boy had been seven years at school and there had been from the outset the greatest difficulty in teaching him to read. The boy should have been in Standard V., but was now, after seven years, only in Standard II., and he could not get out of it because of his reading. The boy had made no complaint whatever about his vision, but his mother had brought him to the Eye Infirmary in order to discover if defective eyesight had anything to do with his difficulty.

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*Read in the Section of Ophthalmology at the Annual Meeting of the British Medical Association, Oxford, 29th July, 1904.

On examination, it was at once evident that his vision had nothing to do with his difficulty in learning to read. His refraction was normal; his visual acuity normal; and his fundus normal.

From the account of the boy, given by his mother, it was evident to me that he belonged to the category of cases, which I have described by the term "congenital word-blindness." His mother stated that he was in every other respect a quick and intelligent boy. He had no difficulty with arithmetic, and could keep up with the other scholars easily in this department. He was now working at compound addition. His mother said that the other boys laughed at him in the class, and that when he became excited his reading was worse than ever. He concealed his defect for a time by learning his lesson by heart, so that when it came to his turn and he got the few words at the beginning, he could repeat the lesson by heart. His auditory memory, therefore, was evidently very good.

On examining him, I found that his reading was very defective for a boy who had been seven years at school. He could rarely read by sight more than two or three consecutive words, but came to a standstill every second or third word, and was unable to proceed unless he were allowed to spell out the word aloud, thus appealing to his auditory memory, or to spell it silently with his lips, thus appealing to his memory of speech movements, glosso-kinæsthetic memory of Bastian. The words he stuck at were chiefly polysyllables, but this was not always the case, as he often failed to recognise by sight even simple monosyllabic words. He spelt very well, and when asked to spell the words which he had failed to recognise by sight, he nearly always did so without any difficulty. He wrote a long passage to my dictation with only two mistakes in spelling.

He read all combinations of figures with the greatest fluency up to millions. I made him do several sums up to compound addition, and all of these he did smartly and correctly.

His mother informed me that he had a splendid memory, and could learn things by heart very easily.

I wrote to his schoolmaster for information about the boy.

He replied that the lad had experienced through his whole career in the school the greatest difficulty in learning to read, which had kept him very much behind in his progress through the school. He was strong in arithmetic, good at spelling, and average in other subjects, including geography and history. "I have never," said his teacher, "seen a case similar to this one in my 25 years' experience as a teacher. There is another boy in his class, who is quite as poor a reader, but this boy is all-round poor, showing no sign of smartness in anything."

I gave verbal instructions to his mother and also wrote to his schoolmaster, as to the method which I would recommend for his further instruction in reading. I advised them to make no further attempt to make him read in class with other boys. His mistakes and difficulties aroused the ridicule of the others, and this excited him and made him worse. I advised frequent short lessons by himself, both at the school and on his return home. The lessons were not to last too long, and were to be frequently repeated every day. Under this line of treatment he has made splendid progress, and I have just heard that he has now, after two years persistent training, been raised to Standard IV., whereas he took seven years under the old methods to get into Standard II.

He has made good progress in all the other branches of his education. His progress in arithmetic has been very good, and he is now working at vulgar and decimal fractions.

Remarks.—This case is the fifth which I have recorded, and proves the truth of the statement which I made in my first contribution (1) on the subject, that these cases are by no means so very rare but rather that they are not recognised. Nettleship (2) and Wernicke (3) in recent contributions agree with this view. It is therefore a duty to record every case, so that the attention of the profession may be called to this condition, and the mind familiarised with its characteristic features.

The clinical picture is so clear in its outlines that these cases are very easily recognised. A child, when sent to school, is found to experience the greatest difficulty in learning to read. This is the more striking as the same child may be otherwise intelligent and show good intellectual power. There may be no difficulty in any of the other branches of his education. In four out of my five cases the children had no difficulty with their arithmetic, and easily kept up with the others. In all the subjects which can be learned by heart, such as geography and history, they experience no difficulty. They may spell very well. In one of my cases the child had no difficulty with music, and made excellent progress in it.

The defect is a specialised one, *viz.*, a difficulty in acquiring and storing up in the brain the visual memories of words and letters. It may not extend beyond this special group of visual images. The power of retaining and storing up the visual memories of numbers and musical notes may be quite normal. It is therefore a condition exactly analogous to the cases of word-blindness which are met with as a result of disease, and where the patient has lost completely the visual memories of words and letters, but is yet able to read numbers and musical notes fluently. I have in my book (4 on *Letter, Word, and Mind Blindness*, given several examples of patients unable to read a single word or letter, but still able to read numbers with the most perfect fluency. A year ago I saw a little girl, who, through cerebral disease, was unable to read words or letters, and yet could read music with perfect fluency. In fact, she amused herself all day long by sitting at the piano and playing from her music.

These clinical facts can, in my opinion, be explained only by the different groups of visual images being stored up in different but probably contiguous cerebral areas. The phenomena presented by disease are exactly analogous to the phenomena presented by these congenitally defective children. Hence, I infer that in the case of those defective children their difficulty in learning to read can most readily be explained on the ground of some defect in the special area of the brain, where are stored the visual memories of words and letters. There is now a pretty general agreement that this area is in the angular gyrus of the left side of the brain. If there be any abnormality within this area, due either to disease, to injury at birth, or to faulty development, it is easily conceivable how such a child should experience abnormal difficulty in learning to read. Any condition diminishing the number of cortical cells within this area, or perhaps interfering with the blood supply, would diminish the power of retention of the visual images of words and letters. The defect in these cases is a purely local one, as all the other forms of memory may be normal, or even above the average. In the case under consideration the schoolmaster informed me the boy was strong in arithmetic, good at spelling, and average in other subjects, including geography and history. His auditory memory was excellent, as was proved by his learning his reading-work by heart.

With regard to the diagnosis of these cases, Wernicke (3) says that the statement in my last article (5) that congenital word-blindness can be diagnosed only in presence of full central vision is too stringent, for there is no reason why a certain amount of amblyopia should not co-exist with word-blindness. Whilst admitting the truth of this latter remark, I still maintain that the diagnosis of congenital word-blindness can only be made with confidence when we are dealing with a child with healthy eyes and good visual acuity.

These cases are always brought to the ophthalmic surgeon, and hence the great importance of his being thoroughly familiar with their true nature. Out of the five cases which I have placed on record, four have come to me at the Glasgow Eye Infirmary. It is quite a natural inference, that when parents see the extreme difficulty of a child in learning to read, they infer that this difficulty may be due to some defect of vision. If we find on examination that there is no visual defect then a confident opinion may be given, but if, on the contrary, some decided visual defects were present, the diagnosis would be much less positive. Wernicke would attach great importance in diagnosis to the fact that these children as a rule have no difficulty in reading and dealing with figures. When the difficulty is confined to learning to read words and letters and does not extend to figures, it undoubtedly is a valuable point in diagnosis, as it should at once make it evident to the examiners that the difficulty is due not to an optical but to a cerebral defect. In three out of the five cases recorded by me and in the case presently under consideration, the difficulty was confined to words and letters and did not extend to figures. Too much importance in diagnosis must not, however, be attached to this point. It will be found that frequently the difficulty extends to both figures and letters, nor is this to be wondered at, when we consider that whilst clinical evidence makes us conclude that distinct cerebral areas are utilised for the storage of the visual memories of figures and words and letters, still these are lost so frequently together that there is little doubt that the cerebral areas involved are close together and probably contiguous. Hence in these congenital cases also, the defect whilst frequently involving only the word and letter area in some involves the contiguous area for figures also.

The diagnosis must rather rest on the fact that the difficulty is really that of storing up and retaining the visual memories of words. In examining the patient, therefore, it is essential to understand that the patient must not be allowed either to spell out the word letter by letter, or to move the lips silently, or to trace the form of the letters with the hand. All of these methods they occasionally adopt in order to assist their defective visual memory—that is, they appeal to other forms of memory stored in other areas of the brain, which may be perfectly normal.

In the case under consideration the patient could always tell me the word, if I allowed him to spell it out aloud, thus appealing to his auditory memory, situated in the temperosphenoidal convolutions. He could not recognise, for example, by sight alone the word "man," but he could recognise the individual letters by sight and he knew how to spell it. Hence if he repeated aloud the individual letters, his auditory memory gave him the word. Or if I allowed him to spell it silently by moving his lips, he could often give me the word correctly by thus appealing to his memory of speech movements. In some cases I have seen the children copying the letters with their hand on the table and thus appealing to their writing centre.

In the examination of the child no appeal must be allowed to the other forms of memory than the visual.

The cases vary in degree, and therefore the difficulty experienced in teaching them to read will vary also. In all five cases which I have reported, the children have been taught to read and the difficulty has been overcome by perseverance, and I think it will be found that in very few of these cases is the difficulty insurmountable. If the angular gyrus on both sides were greatly damaged or congenitally defective, then the difficulty might be insuperable, but such bilateral defects are rare. I know from experience of cases of word-blindness produced by disease, that the re-education of the patient can be accomplished but only with great perseverance and with greater difficulty than is usually experienced in teaching a person with an undamaged brain to read. I suppose that the difficulty in these cases arises from the fact that all the centres involved in speech are on the same side of the brain, and that the education of a corresponding area of the brain on the opposite side can only be accomplished by a much greater effort. In these cases of congenital word-blindness, it is highly probable that the visual memory of words and letters may be stored up in the right angular gyrus, the left being congenitally defective, and hence the greater difficulty in teaching them to read by sight, as they require for that purpose to use a part of the brain which does not usually discharge that function.

The early recognition of the true character of these cases is of the utmost importance, because otherwise the valuable years are lost when the brain is most plastic and most receptive of impressions. Such children cannot be taught in class. The great difficulty they experience excites the ridicule of other children and is a great source of discouragement to the affected child. The child should be taught alone. I always advocate a number of short reading lessons every day rather than one long one. The visual impressions must be very frequently repeated before they remain permanent in the brains of these patients. Hence, the proper method is by short and frequent lessons during the day without anything leading to exhaustion. I have found great assistance from the use of block letters in teaching these patients to read, thus deepening the visual impressions by associating them with the tactile ones.

In these days of scholastic reform, it is evident that there should be a systematic examination of all backward and defective children by a medical expert who would be able to differentiate the various defects and report as to the best means of dealing with the different groups.

In our educational scheme this is a subject which has met with but scant attention, and, in my opinion, special provision for dealing with the education of "backward and defective" children on a scientific basis is one of the most crying needs in our present educational methods.

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3. Wernicke.—*Centralblatt für praktische Augenheilkunde*, Sept., 1903.
4. Hinshelwood.—"Letter, Word, and Mind Blindness." London: H. K. Lewis, 1900.
5. Hinshelwood.—*Ophthalmic Review*, April, 1902.

CLINICAL, PATHOLOGICAL, AND THERAPEUTICAL MEMORANDA.

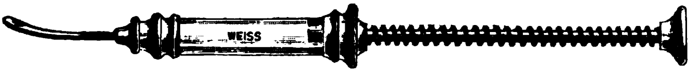
A MODIFICATION OF BOWMAN'S SUCTION CURETTE.*

BY

W. WATSON GRIFFIN, M.B., F.R.C.S.,

OPHTHALMIC SURGEON TO THE SUSSEX COUNTY HOSPITAL, BRIGHTON.

THE use of a suction curette for the evacuation of soft cataract is not often called for. Still, cases do arise in which its use appears desirable, as, for example, when, after a preliminary needling, the swollen-up lens material does not readily escape with the aqueous on making a small corneal incision a few days later. The introduction of the nozzle of a suction curette under these circumstances enables one largely to clear the pupil of the sticky lens material which is present. In using Bowman's instrument it struck me that it would be an advantage if the suction took place automatically, and in the instrument illustrated (*see* figure) this is effected by means of a



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*Read in the Section of Ophthalmology at the Annual Meeting of the British Medical Association, Oxford, July, 1904.

wire wound spirally around the piston rod and fixed at one end to the body of the instrument, and at the other to the top of the piston rod. In using the instrument the piston is pressed down with the thumb, then, on relaxing the pressure, the wire spring comes into action and gently and gradually withdraws the piston and thereby sucks up the lens material. The instrument takes to pieces, and can be easily cleaned. Its cost is 12s. 6d., against £1 7s. 6d. for Bowman's. It is made by Messrs. Weiss & Son, of London.

A BRIEF HISTORICAL NOTE CONCERNING THE SUCTION OPERATION FOR CATARACT.*

BY

PROFESSOR J. HIRSCHBERG, BERLIN.

PERHAPS it may be interesting to add some short historical remarks, as taken from my studies of old Arabian codes on ophthalmology. Suction of soft cataract was not known to the old Greeks, but known to the old Arabs.

First, the glass tube, of which we cannot quote the author, and which was introduced through a section in the lower part of the cornea, was known to Razi and to Tabit b. Qurra, about the year 900 A.D., but was not praised by these authors nor by Mansur. Secondly, the perforated, triangular, metallic needle of Migdah with a hole on one of the three sides was invented by Ammār, of Mosul, about 1020, and introduced in the ophthalmological practice of the Arabs as a kind of radical cataract operation. In the common and palliative operation of couching, the patient must lie on his back for seven days on account of the danger of re-ascension of the couched cataract. After slow suction the patient could sit upright, without danger, only his eyes must be bandaged. Suction was in free use amongst the Arabs in the Orient until their decline, about 1300. This is also the needle of which from the Trag the Spanish Arab Abulgārim, at Cordova, about 1100, had heard without seeing it and gave a short quotation in his surgery. This needle was introduced into the eye through a sclerotic puncture, not very far from the corneal edge, about four to six millimetres. It was as broad as a small lanceolar knife or a broad needle is to-day.

Ibu Raziqu, from Dawas, about 1200, used a bent suction piece of this needle, and is said by his famous friend Usaibia, to have obtained very good results.

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*Read in the Section of Ophthalmology at the Annual Meeting of the British Medical Association, Oxford, July, 1904

Salahaddin, from Hawa, in Syria, about 1300, praises Ammār's method for soft cataract and explains the great difference between the hollow needle and the glass tube.

·Halifa, from Aleppo, about 1250, describes, after the couching, suction as a second method of cataract-operation, performed according to Ammār's principles.

Thirdly, we find a hollow metallic round needle (mihatt) described as the thorasan-needle on the margin of the Parss code of Ali b. Tsa's memorial on ophthalmology. The author of this needle is unknown, but probably it was younger than Ammar's instrument.

The European middle age had only a very dim idea of the Arabian improvements in eye surgery. But in the nineteenth century the suction or aspiration of soft cataract was re-introduced into practice in France by Blanchet and Lacquer, and in England by Bowman, Teale, Lawson, and Greenway.

I conclude with the remark that an account of my studies on the Arabian method of suction will appear very soon in the *Centralblatt f. prak. Augenheilkunde*, with a full quotation of all important passages from the Arabian codes, translated into German.

CURRENT LITERATURE.

NOTE.—Communications of which the titles only are given either contain nothing new or else do not lend themselves to abstract.

I.—ANATOMY, PHYSIOLOGY, PATHOLOGY, AND BACTERIOLOGY.

Neuburger, Sigmund.—Old interstitial keratitis in the son —Brain syphilis in the mother. (Abgelaufene Keratitis parenchymatosa beim Sohn—Hirnsyphilis bei der Mutter.) *Centralb. für prak. Augenh.*, März, 1904.

Neuburger recounts this curious case, in which 5½ years previously he had treated the son for an interstitial keratitis, which he supposed was due to hereditary syphilis, but of which he could obtain no definite evidence, although he carefully questioned both parents separately; and now the mother comes with right ophthalmoplegia and other symptoms pointing to disease at the base of the brain. She also has an enlarged liver, supposed to be due to gumma. Under energetic inunction, with large doses of potassium iodide, she has improved somewhat, and still continues to improve.

A. Levy.

Erdmann, P.—On syphilitic keratitis. (Zur Kenntniss der Keratitis Syphilitica.) *Zeitschr. für Augenheilk.*, April, 1904.

Erdmann raises the question as to how far syphilitic disease may effect the cornea. Leaving out of count the well recognized form of interstitial keratitis, which is usually the result of the hereditary form of the disease, he cites two cases where the syphilitic keratitis resembled more a gummatous process in the tertiary stage than an ordinary interstitial inflammation. The first patient, a man *ætat.* 32 years, presented himself with a parenchymatous infiltration of the cornea and some superficial vascularization. This gradually increased and soon a greyish-yellow prominence formed on the surface of cornea, which later began to ulcerate. He was then carefully examined for other signs of syphilis, and some bone thickening and enlarged glands were found, with a history of nocturnal pain for two years. Under treatment by mercurial inunctions and potassium iodide, the condition healed up rapidly, leaving scars level with the surface. The second patient was a child, *ætat.* four months. The right cornea was found to present a greyish, flat prominence of about 7 mm. diameter. The rest of the cornea was quite clear. Tension normal and pupil dilated well with hyoscine; very slight pericorneal injection. The left eye was absolutely normal. The child was so feeble that kerato-malacia was thought of. There was a diffuse enlargement of the lymphatic glands all over the body, and thickenings at the costo-chondral junctions. Antisyphilitic treatment was at once adopted, and the condition cleared up with remarkable rapidity.

Both the foregoing cases are held to represent manifestations of tertiary syphilis. Although they cannot be described as definitely gummatous, still an infiltration with a tendency to ulceration, very little disturbance of the tissues round about, and rapid resolution under appropriate treatment, may justly be held to be suggestive of an affection of this nature, modified by the special conditions which obtain in the cornea.

A. Levy.

PONTINE DISEASE.

(1) **Feilchenfeld, W.—A case of pontine disease. (Zur Kasuistik der Ponserkrankungen.)** *Zeitschr. f. Augenh.*, April, 1904.

(2) **Sutherland, G. A., and Holland, Eardley.—A case of Glioma of the Pons.** *British Journal of Children's Diseases*, May, 1904.

(1) **Feilchenfeld** recounts a case of what appeared to be a pontine hæmorrhage, which occurred first on one side and then on the other; unfortunately no *post-mortem* examination was

made. The patient, a man, *ætat.* 65 years, suddenly developed diplopia and right tinnitus. The diplopia was caused by a paralysis of the right sixth nerve. There appeared the next day a complete paralysis of the right seventh nerve. Ophthalmoscopically, fundi normal, but for a myopia of about 7 D. In the course of three weeks, the condition cleared up, and he was discharged cured. Three days later he returned with diplopia and tinnitus, and now the condition was on the left side, the right being quite normal. The affection was manifestly much more severe than the previous attack, there being marked dizziness and paresis of the hypoglossal. Within the next two days the paresis extended to the right arm and leg; and on the fourth day he died suddenly. The author considers the seat of the hæmorrhage to have been at the level of the sixth nucleus in the left half of the pons.

A. LEVY.

(2) An instructive case of glioma of the pons Varolii is recorded by **Sutherland** and **Holland**.* The facts are as follows: a child, aged 6½ years, suffered from persistent headache, which had supervened three days after a blow from a brick upon the back of his head. Three weeks later, other symptoms, as squint, unsteadiness in walking, alterations in speech, dribbling of saliva, immobility of the right side of the face, and occasional difficulty in swallowing, made their appearance. Upon examination, there was bilateral paralysis of the VI and VII nerves. The eyelids could not be tightly closed; the face was mask-like; saliva was constantly dribbling from the mouth—points well shown in Fig. 1. The soft palate was

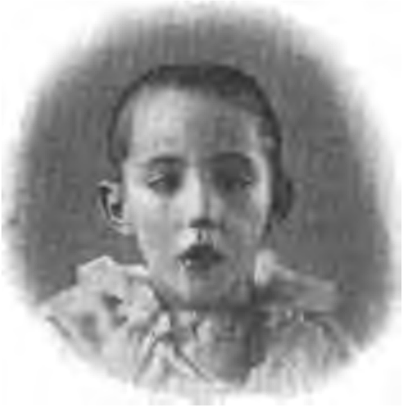

FIG. 1.

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* For the loan of the blocks illustrating this abstract we are indebted to the courtesy of the Editor of the *British Journal of Children's Diseases.*

paretic and anæsthetic; the voice was of nasal character; speech was slow and deliberate. Gait was ataxic; knee-jerks were exaggerated; plantar reflexes were of the extensor type; ankle-clonus could not be elicited. No defect of intelligence. Fundus showed no objective signs of disease. In the further history of the case, after temporary improvement, the lad lapsed into a torpid state, and lost control of the sphincters. Respiratory and cardiac failure led to death forty-one days after admission to hospital and seventy-nine days after the beginning of the illness. At the necropsy, the ventral aspect of the pons presented the aspect of a lobulated mass and was considerably enlarged, as may be seen from Fig. 2. The mass, which was subsequently found to be a glioma, extended forwards to the anterior limit of the pons and slightly on to the left crus cerebri. The III and the IV nerves were not involved, neither were the V nerves. On the other hand, the superficial origins of the VII nerves were surrounded by tumour substance, whilst the VI nerves were completely embedded. The right VI nerve could not be found. The lateral and the third ventricles were markedly distended with fluid.

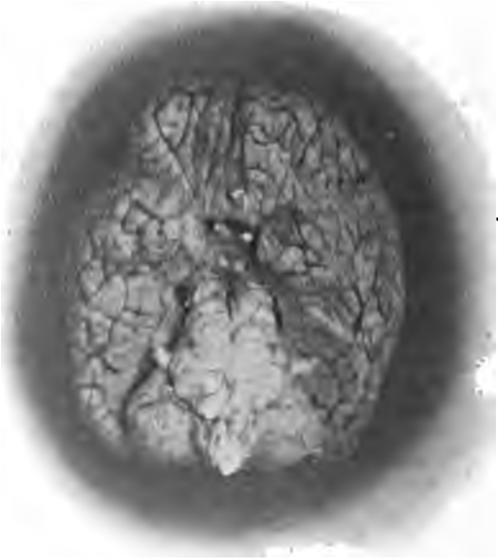


FIG. 2.

Ferron, Michel.—On the lesion of the orbital nerves in their intracranial course consecutive to gun-shot injuries of the skull. (De la lésion des nerfs de l'orbite dans leur trajet intracranien consécutive aux coups de feu du crâne.) *Annales d'oculistique*, mai, 1904.

Ferron concludes that lesions of the orbital nerves in their intracranial course from gunshot wounds are rare, with the exception of those affecting the optic nerve. Traumatism involving the posterior fossa is not likely to cause paralysis of the III, IV, V, or VI pair, as their relations with the skull are far from close, the basilar groove is always respected in fracture of the base, and as an injury serious enough to wound the nerves brings about death either suddenly or after a brief period, during which other symptoms mask the ocular phenomena. In bullet wounds made through the mouth, according to the precise inclination of the weapon, either the anterior or the middle fossa may be fractured, and in this way this or that nerve may be damaged. In consequence of the close proximity of the nerve-trunks to the great vessels at the base of the brain, it is almost impossible for the sufferers to survive lesions produced by the projectile itself, and the results observed in such cases are almost certainly the outcome of injuries produced by bone-splinters or blood-clots.

H. de V.

Shoemaker, William T.—Obstruction of the central retinal artery. *American Journal of the Medical Sciences*, April, 1904.

Shoemaker reports a case of partial blindness of one eye in a girl, 17 years of age, which he regards as due to lateral thrombosis of the central artery of the retina. Nephritis and a functional cardiac murmur were present. Shoemaker points out that the clinical signs of thrombosis enumerated by Priestley Smith (*Ophthalmic Review*, 1884) when present, make the diagnosis more or less certain, but, on the other hand, when any or all of them are absent, do not exclude thrombosis. With regard to treatment, the author characterises pressure-massage of the eyeball as "irrational," and advises forced exercise, such as running or climbing stairs, and the administration of nitrites, especially nitro-glycerine and amyl nitrite. A trial might also be made of saline solution injected into the veins or the cellular tissue of the body.

II.—DISEASES AND INJURIES OF THE EYE AND ORBIT.

Santucci, S.—Traumatic dislocation of the lachrymal gland, and its removal. (Der traumatische Vorfall der Thränendrüse und die Zweckmässigkeit ihrer Extirpation.) *Centralb. für prak. Augenh.*, Mai, 1904.

The author discusses the relative advantages of attempting to replace a dislocated gland or of removing it, and comes to the conclusion that it is better to remove it. **Santucci's** chief reasons are that replacement is extremely difficult and very uncertain; that an injured gland is very liable to inflammatory and degenerative changes rendering it useless; and, finally, that disfigurement follows its retention. A. LEVY.

Delantsheere.—A case of ocular traumatism. (Un cas de traumatique oculaire.) *Bulletin médical des accidents de travail*, T. I, No. 1, 1904.

Delantsheere reports the case of a man, aged 26 years, who sustained a contusion on the forehead in 1900, an injury followed by the formation of an adherent cicatrix. There was at first paresis of accommodation, and then asthenopia with venous hyperæmia of the retina. The temporal half of the left papilla became pale, and the sight of the left eye fell to one-half. In 1902, the left crystalline lens became opaque; the orbito-palpebral furrow became effaced as regarded the internal angle of the left upper eyelid. The case appeared to be one of a lesion of the branches of the supraorbital nerve, with consecutive troubles of a trophic nature.
H. COPPEZ.

Roux, Henri le.—A case of traumatic enophthalmos. (Un cas d'énophtalmie traumatique.) *Archives d'ophtalmologie*, mars, 1904.

A lad, aged 15 years, was kicked by a horse over the left eye. The nose was broken and two wounds were present, one at the root of the nose and the other towards the centre of the upper eyelid. The eyeball escaped direct injury. When seen by **le Roux** thirty-six days after the injury, the left eyeball was so sunken that the plane of the cornea lay 5 mm. behind that of the right cornea. The pupil, which was rather dilated, did not react either to light or to accommodation. V.=1/8. The visual field for white showed a concentric contraction, amounting to 10°, and there was a central scotoma for green. The condition was unchanged when the lad was seen three months later. Le Roux explains the symptoms in his case on the theory of Maklakow and Lederer, which assumes the enophthalmos to be due to atrophy of the fatty tissues of the orbit, consecutive to the retraction of a traumatic hæmatoma behind the eyeball. The same lesion would account for the retro-bulbar neuritis present in the case. H. DE V.

Roulliès, J.—Upon the treatment of certain traumatic ulcerations of the Cornea with hypopyon by early iridectomy. (Du traitement de certaines ulcérations traumatiques de la Cornée avec hypopyon par l'iridectomie précoce.) *La Clinique Ophtalmologique*, novembre, 1903.

In agricultural districts ulcerations of the cornea after injuries by bits of barley, chips of wood, and branches of trees are frequent. If the lacrymal passages are healthy, the accident, as a rule, is followed by speedy healing of the corneal wound. The case is quite otherwise, however, in old people, or in those who suffer from lacrymation or rhinitis, and infection of the cornea, with loss of sight, is then a common sequel. **Rouillès**, of Agen, urges that an iridectomy should be performed as early as possible in these severe cases. The operation, even when practised when there is pus in the anterior chamber, never provokes panophthalmitis, while, on the other hand, it leads to the speedy disappearance of the inflammatory and septic phenomena. The author believes that if the case shows no improvement twenty-four hours after paracentesis or Saemisch's section, iridectomy should always be resorted to.
A. DARIER.

Lafargue.—Upon traumatic cataract from direct contusion of the eyeball without lesion of the external membranes. (De la cataracte traumatique par contusion directe du globe oculaire sans lésion des membranes externes.) *Thèse de Bordeaux*, 1903.

The really original portion of **Lafargue's** thesis is that part dealing with the vexed question of contusion cataract apart from rupture of the capsule. The views of various writers are quoted, and Lafargue gives the following conclusions with regard to the production of contusion cataracts : (1) They may be due to an imbibition of the aqueous humour by the substance of the lens brought about by a traumatic rupture of the capsule. This is the common form, and one as to the pathogeny of which all authors are in accord. (2) They may also be due to a more or less rapid alteration of the nutrition of the lens, induced by molecular disturbances, by circulatory or nervous alterations, or, lastly, by hyperæmia of the uveal tract. Furthermore, the disturbance in the nutrition of the lens may be accompanied by changes in any of the transparent media of the eye. A. DARIER.

Nedden, Zur.—Clinical observations on the origin and course of traumatic posterior cortical cataracts. (Klinische Beobachtungen über die Entstehung und den Verlauf der Cataracta corticalis posterior traumatica.) *Zeitschrift. f. Augenh.*, Mai, 1904.

Zur Nedden refers to this well-known form of cataract resulting from traumatisms which may affect the lens only indirectly, or in perforating wounds when the foreign body does not reach the posterior pole at all; nor does it necessarily involve tearing the posterior capsule or the zonule of Zinn. The course of the cataracts varies—some remain stationary for a long time, then either clear up or extend and become complete; occasionally they clear up absolutely. Two cases are cited that may be regarded as an experimental production of this condition in the human being. These were cases of high myopia where the normal lenses were needled. The wound in the anterior capsule closed up and the anterior parts of the lens remained quite clear, but typical posterior polar cataracts formed and remained stationary during the period of observation, extending in one case to eight days, and in the other to nine weeks. A second needling was required to break up the lens thoroughly. The author thinks it necessary to assume, in view of the recent work showing the absence of pre-formed lymphatic spaces in the lens, that these cataracts are brought about by a slight dislocation of the substance of the lens within its own capsule, loosening the intimate relation of the individual fibres to the capsule. The osmotic interchange of fluids between the capsule and lens substance is thus interfered with, and the disturbed fibres become opaque. It is pointed out in this connection that the lens is much less adherent to its posterior than to its anterior capsule. A. LEVY.

Corner, Albert.—Non-perforating wounds of the anterior capsule of the lens. *British Medical Journal*, June 4th, 1904.

Santucci, L.—A contribution to the cases of traumatic luxation of the lacrymal gland. (Contributo alla Casuistica delle Lussazioni Traumatiche della Glanala Lagrimale.) *Annali di Ottalmologia*, Vol. XXXII, Fasc. 11-12, p. 827.

Santucci gives particulars of the six cases quoted by Villard (see OPHTHALMOSCOPE, 1903, *p.* 187) of dislocation of the lacrymal gland, associated with wounds of the eyelid. As to luxations unaccompanied by wounds, the case now reported by Santucci appears to be the second published. A girl of 19 years presented slight ptosis of the right eye, and a subcutaneous tumour, the size of a nut—hard, little movable, and somewhat tuberculated. It had made its appearance seven years before after an injury. The tumour was removed, and when examined microscopically the gland showed a diffuse leucocytic infiltration of moderate degree, together with hyperplasia of the interstitial tissue. A. ANTONELLI.

III.—OPHTHALMIA NEONATORUM.

(1) **Neverka, J.—Prophylaxis of Gonorrhœal Ophthalmia in the new-born.** *Heilkunde*, Januar, 1903, and *American Medicine*, August 29th, 1903.

(2) **Bischoff, C. W.—On the silver catarrh of the newly-born.** *Centralbl. f. Gynek.*, No. 10, 1903, and *Annals of Ophthalmology*, July, 1903.

(3) **Morax, V.—Upon the ætiology and obligatory declaration of Ophthalmia neonatorum. (Sur l'étiologie des ophtalmies du nouveau-né et la déclaration obligatoire.)** *Annales d'oculistique*, T. CXXIX. (1903), p. 346.

(4) **Portillo, Jose Vieden.—The Treatment of Ophthalmia in the newly-born.** *Archivos de Ginecopat. Obstetr. y Pediatr.*, Júnio 25, 1903, and *Archives of Pediatrics*, November, 1903.

(5) **Stephenson, Sydney.—Ophthalmia neonatorum, its ætiology and prevention.** *Trans. Obstetrical Society of London*, Vol. XLV, 1903, and *British Medical Journal*, July 18th, 1903.

(6) **Poinot, E.—Ophthalmia neonatorum and compulsory notification. (L'ophtalmie des nouveau-nés et la déclaration obligatoire.)** *La Clinique ophtalmologique*, 23 juillet, 1903.

(7) **Bywater, F. W.—Ophthalmia neonatorum.** *British Medical Journal*, 25th July, 1903.

(8) **Heelas, Walter W.—Ophthalmia neonatorum.** *British Medical Journal*, 8th August, 1903.

(9) **Sinclair, W. J.—Ophthalmia neonatorum.** *British Medical Journal*, 29th August, 1903.

(10) **Scipiades, Elemer.—Silver Acetate in the Prophylaxis of Ophthalmia neonatorum.** *American Medicine*, September 26th, 1903.

(11) **Haupt, M.—Gonorrhœal and non-gonorrhœal conjunctivitis in the newly-born. (Ueber gonorrhoische und nichtgonorrhoische Bindehautentzündungen bei Neugeborenen.)** *Klin. Monatsbl. f. Augenheilk.*, 1903, II, p. 447.

(12) **Hoyle, James C.—Ophthalmia neonatorum.** *British Medical Journal,* 12th September, 1903.

(13) **Herman, G. E.—Ophthalmia neonatorum.** *British Medical Journal,* 19th September, 1903.

(14) **Allport, Wilfred.—Ophthalmia neonatorum.** *Birmingham Medical Review,* December, 1903.

(15) **Hilzensauer, Josef.—Upon the eye inflammation of newly-born children. (Ueber die Augenentzündung Neugeborener.)** *Woch. f. Therapie u. Hygiene des Auges,* 26 mai, 1904, and 9 juni, 1904.

(16) **Corner, Albert.—Treatment of Ophthalmia neonatorum,** *British Medical Journal,* June 11th, 1904.

The following papers deal with ophthalmia neonatorum, mainly as regards the ætiology and prevention of that disease.

(1) **Neverka** reports the method employed in the obstetric department in Prague. Immediately after birth, before severing the cord, the eyelids are washed with cotton dipped in 3 per cent. boric acid ; this is repeated after the cord is cut, and before the child is oiled. The eyes are protected during the bath. Boric acid is again used after the child is clothed. After this several drops of a 20 per cent. solution of protargol are instilled into each eye. The eyelids are moved up and down, so the protargol will enter every part of the conjunctival sac. If the mother is suspected of having the disease, the protargol instillations are repeated several times during the first few days. As little reaction follows these injections, washing with salt solution afterwards is unnecessary. The results of this method are very satisfactory. The percentage of infected children was reduced from 2 per cent. to 0 per cent. in a list of 1,100 deliveries.

(2) Although Credé's method is unanimously acknowledged as an excellent prophylactic, its irritating influence has often been emphasised. Cramer, *e.g.*, observed the latter in 96 per cent. **Bischoff** therefore studied the reaction of Credé's method. carried out strictly according to Credé's directions, on 100 new-born children of the University Obstetrical Clinic at Bonn. The degree of irritation was measured by the following secretion : No severe reaction occurred in any case. On the first day it was moderate in 20, slight in 21, minimal in 38, none in 20. On the second day slight in 6, minimal in 22, none in 72 ; on the third day slight in 1, minimal in 10, none in 89 ; on the fourth day none in 100. From this Bischoff infers that the severe irritations observed by Cramer must be due to faulty methods. If, however, further experiences with 1 per cent.

solutions of nitrate or acetate of silver should prove the latter to be just as effective as the 2 per cent. solutions, they would be preferable, on account of the slighter reaction of the eyes after their use.

(3) According to the law of February 15th, 1902 (now vigorously enforced in France), cases of ophthalmia neonatorum must be notified to the proper quarter. This leads **Morax** to examine closely into the precise meaning and significance of the expression "ophthalmia neonatorum."

Broadly speaking, gonorrhœal infection is not responsible for more than one-half of the cases of inflammation of the conjunctiva in newly-born babies. The infection nearly always takes place at the moment of birth, although inflammatory symptoms do not declare themselves until the first, second, or the third day after birth. If the disorder is present at birth, it will generally be found that "the waters have burst" twelve to twenty-four hours before the child's head was delivered. Other instances of so-called congenital ophthalmia, as in Armaignac's case (see *Annales d'oculistique*, T. CXXVIII, p. 241) may be due to inoculation *in utero*. The short incubation period in such cases may be owing to the different temperature of the conjunctival sac before and after birth. The varying period of incubation in the ordinary cases may be correlated with corresponding degrees of virulence as regards the gonococci. Morax believes that the period of incubation of primary gonorrhœal infection may oscillate between one and eight days. That an inflammation commencing after the eighth day is of gonorrhœal origin is unlikely, unless the mother or the nurse, herself affected with the disorder, has accidentally contaminated the infant's eyes. With regard to the other forms of ophthalmia, the diagnosis rests mainly upon the absence of the gonococcus. Symptoms seldom manifest themselves until after the seventh day from birth; secretion is usually less abundant than in the gonorrhœal cases; both eyes are generally involved; corneal lesions are exceptional; and the cases last for one week to a month, according to circumstances. The pneumococcus is sometimes found in these cases, and, less commonly, the Koch-Weeks' bacillus or the diplobacillus. In many instances, however, bacteriological examination yields negative results. It becomes difficult under the latter circumstances to account for the inflammatory reaction. Our methods of investigation are possibly not sufficiently refined to detect the causative micro-organism. That the process is infectious is attested by the fact that the inflammation is bilateral. Morax suggests that a few of these cases (perhaps one in twenty,) may be due to the conjunctival eruption of congenital syphilis. He is opposed to the view that these forms of ophthalmia are generally due to secondary inoculation by the mother or the nurse, since in that event there should be no difficulty in finding in the secretion from the eyes the ordinary microbes of secondary infections, such as staphylococci, streptococci, pneumococci, etc. Morax gives the following conclusions.—Under the name "ophthalmia neonatorum" we have a series of conjunctival infections, of which the ætiology is clearly determined for the one group, while for another it is still a matter for discussion. Gonococcal infection is the cause of one-half the cases of ophthalmia coming on in the first eight days after birth. Among the inflammations that begin during or after the first week, a small number only are due to the Koch-Weeks' bacillus, the diplobacillus, the pneumococcus, or the streptococcus. Among most of the patients examination of the conjunctival secretion fails to reveal the presence of any causative microbe. In a limited number of these cases it seems that the conjunctival inflammation, like coryza, is connected with syphilis. As to the others, Morax regards ætiological conclusions as premature. There is nothing to make one think that non-gonorrhœal ophthalmia is the outcome of lack of cleanliness on the part of the midwife or nurse. Such an interpretation, moreover, has the great drawback of rendering notification and early treatment of the cases more difficult. S. S.

(4) **Portillo** recommends the use of a one in five hundred solution of protargol in the treatment of ophthalmia neonatorum. This solution should be applied twice daily, or, if the inflammatory signs be very intense, the strength may be increased to 2 or even 5 per cent., and the remedy used as an instillation. He devised a new form of irrigating apparatus which elevates the eyelid and allows the complete flushing of the conjunctival sac with these solutions. Solutions of boric acid in warm water may be used in large quantities in this irrigating apparatus several times during the twenty-four hours, in addition to the applications of protargol. A small quantity of a one in two thousand solution of formalin may be added to the irrigation fluid. Several times between the irrigations, or, if need be, every half-hour, the eyelids should be half-opened, so as to give an opportunity for the escape of pus which bathes the cornea. It is well also to apply a small amount of vaselin with iodoform 2 per cent. to the edges of the lids by means of a small camel's-hair brush. This prevents the adhesion of the lids and disinfects the eye. The eye should be protected from glaring light but should never be bandaged permanently, as darkness and heat favour suppuration. Applications of silver nitrate or of bichloride as caustics during

the first stage of the suppuration, are to be absolutely proscribed, and the same is true of bichloride solutions and of iodoform in powder, which is still often used in this condition.

(5) In the course of this communication, read before the Obstetrical Society of London on 1st July, 1903, **Stephenson** discusses at some length various points with regard to ophthalmia neonatorum. He points out that 10% of all blindness is due to that preventable disease. He draws a sharp distinction between ophthalmia caused by the gonococcus and that caused by other organisms. In 1,498 cases of ophthalmia neonatorum, gonococci was found to be present in 60.17%. Hence about two-thirds of all cases of ophthalmia in newly-born babies are due to the micrococcus in question. The other micro-organisms found in ophthalmia neonatorum are as follows: (1) pneumococcus; (2) Koch-Weeks' bacillus; (3) diplobacillus of Morax-Axenfeld; (4) B.coli; (5) Klebs-Löffler bacillus; (6) pneumobacilli; (7) common pyococci; (8) streptococci; and (9) micrococcus luteus. Stephenson urges the necessity of a bacterioscopic examination of every case, and believes that gonorrhœal ophthalmia cannot be diagnosed with certainty without such an examination, a point in which it resembles gonorrhœa itself. The bacteriological diagnosis is discussed, and some little stress is laid upon the pyronin and methyl green stain (Pappenheim). Cultures would hardly be necessary were it not for the possibility of confusing gonococci with the diplococcus intracellularis meningitidis of Weichselbaum and Jaeger. Stephenson, however, adds that this diploccocus has not yet been found in the ophthalmia of newly-born babies, although it has been met with in older children.

Investigations carried out by the author and A. W. Sikes into the bacteriological condition of the conjunctival sac of newly-born babies, immediately after birth, failed to disclose in a single instance the presence of pathogenic micro-organisms. The actual infection of a baby's eyes with gonococci may come about in three possible situations: (1) in the maternal passages either before or during the act of birth; (2) immediately after birth; and (3) one or several days after birth. All the available evidence points to the second as by far the commonest mode of infection. The germ-laden discharge from the maternal passages clings about the eyelids and eyelashes, and, as a rule, is carried into the conjunctival sac either by the blinking of the baby or by the water, sponges, or towels used for the first bath. This mode of infection is spoken of as "primary." 80% of the gonorrhœal cases, according to the author's figures, appear within the first four days of birth. Cases of *ante-partum* infection are described and discussed. Such cases may be due either to the premature rupture of the membranes or to an actual intra-uterine infection by the passage of gonococci through the intact membranes. Under the latter circumstances Stephenson assumes the existence of a specific endometritis, with the passage, direct or indirect, of gonococci or their toxins into the amniotic fluid.

The results of Credé's method are contrasted with those of other kinds of prophylactic treatment, as by protargol, sublimate, and aniodol. Stephenson examines critically the objections to the method, which include (a) conjunctival catarrh, (b) conjunctival hæmorrhage, and (c) corneal opacities and ulcerations. As to the first point, investigations were carried out on fifty consecutive babies at Queen Charlotte's Hospital, London, and in all, except possibly one, there was some trivial reaction after the use of the silver drops. Discharge persisted from four hours to two-and-a-half days. Stephenson maintains that there is no evidence whatever to show that the application of a 2% silver solution can cause an actual inflammation of the conjunctiva. It is rather a curious coincidence that several cases of persistent bleeding from the conjunctiva have been reported after the use of silver drops. Such cases of so-called "idiopathic hæmorrhage" (an affection fatal in 60% of the cases) have been recorded apart from any use of silver drops. The alleged production of corneal opacities after the proper use of the Credé method is altogether discredited by Stephenson. Briefly, the author sums up the matter by claiming that the sole disadvantage of the Credé method is the production of a more or less trivial catarrh of the conjunctiva, and, after all, he pertinently asks, what is that as compared with the risks of being blinded by ophthalmia? Stephenson concludes with an appeal to the Obstetrical Society of London to recommend the Credé method for general adoption.

(6) **Poinet** points out that the suggested compulsory notification of this disease is useless, because (1) owing to administrative delay in France the damage would be done before the parents could be compelled to take proper measures; (2) the mother is at the same time stigmatized as suffering from blennorrhagia; (3) many women are not attended by doctor or midwife, and if anything goes wrong with the child's eyes they do not call in a doctor but go to a chemist for a bottle of lotion, and tell him that the child has "got a cold." Poinet counsels the better education of doctors and midwives in the treatment of this disease, and suggests that the prescribing chemist should be legally rendered liable in damages for any loss of sight which may supervene. W. ERNEST THOMSON.

(7) **Bywater** states that the Credé method of prophylaxis

is always adopted in the out-door maternity department of the Queen's Hospital, Birmingham. In 1 only out of 240 births has ophthalmia developed, and in that case, for some reason or other, the silver drops had not been used. A mild conjunctival catarrh frequently follows the application, but no other complication has been met with. Bywater has never heard of the mother or her friends raising the least objection to the use of the drops.

(8) As proof of the value of Credé's method of prophylaxis, **Heelas** gives the following facts with regard to a lying-in hospital with which he was once connected. In the first three weeks of a particular year, 42% of the babies born in the hospital became affected with ophthalmia. Credé's method was then for the first time adopted. From that time onward, not one further case occurred, and the threatened epidemic was cut short.

(9) **Sinclair** publishes a curious letter animadverting in no measured terms against anything like a general adoption of the Credé method of prophylaxis. His statements are of the *argumentum ad hominem* type, and scarcely deserve serious consideration from a scientific point of view. The communication abounds in such question-begging expressions as "Why, therefore, should any infants, except those affected, be tortured by irritants applied in a coarse and ignorant fashion"; "an injury to his new-born child, and an insult to himself and to his class"; "foreign fad"; "slavish imitators of German methods"; and so forth.

(10) **Scipiades** replaces the 2 per cent. solution of silver nitrate recommended by Credé by a 1 per cent. solution of silver acetate. By this means the conjunctival reaction sometimes seen after the use of silver nitrate is avoided. The *technique* is simpler, as it is not necessary to neutralize the excess of the silver salt by normal saline solution. Scipiades has employed this treatment in 475 new-born infants with excellent results.

(11) **Haupt** has collected from cases treated at Prof. Saemisch's *clinique* at Bonn, sixty-two which were microscopically and, in some instances, bacteriologically examined. Gonococci were found in 45, influenza bacilli in 2, pseudo-influenza B. in 1, and bacterium coli and streptococci in 1. His researches thus support the fact already pointed out by other writers, namely, that blennorrhœa in the newly-born may be due to micro-organisms other than gonococci. The course of the gonorrhœal inflammations is usually severer, and they more frequently lead to corneal ulcers. Haupt considers that the staining of the secretion by Gram's method is quite sufficient to establish the diagnosis. The treatment at Bonn is as

follows.—In the initial stages frequent cleansing of the eyes, and use of hydrarg.-oxycyanate lotion (1 : 1,500), and iced applications. During the suppurating stage, argent. nitrate (1.5% — 3% solution) for some weeks, and hydrarg.-oxycyanate for some time after cessation of the secretion. Other preparations of silver, especially protargol, are found to be less satisfactory than silver nitrate.

A. BIRCH-HIRSCHFELD.

(14) Although the gonococcus is almost invariably the cause of the disease, yet some cases are due to the pneumococcus. **Allport** enters into the ætiology and treatment of the disease, and favours Credé's method of using 2% nitrate of silver as a prophylactic in new-born children. He, however, prefers to use argyrol in a 20% solution, as it is less irritating and quite as efficient. For irrigation he prefers permanganate of potassium, 1 : 1,000; a pint of the solution should be used for each eye, so as to do it thoroughly. The lids should be painted with 50% argyrol, but care should be taken not to let it run over the cornea. After this drops of atropine ½% should be instilled. Every hour the nurse is instructed to wash the eyes with permanganate of potassium and apply a drop of 20% argyrol.

C. D. M.

(15) In this article, which originally appeared in the columns of the *Salzburger Tagblatt* for November 20th, 1903, **Hilzensauer** pleads for dissemination of knowledge amongst the public with regard to ophthalmia neonatorum and its dangers.

(16) **Corner** decries the ordinary treatment of ophthalmia neonatorum by painting the lids with silver nitrate, 2% to 4%, and recommends that silver nitrate, one grain to the ounce, be dropped into the eyes every hour during the day and every two hours during the night. Boric lotion and ointment are also to be employed.

IV.—X-RAYS AND RADIUM.

(1) **Hall-Edwards.—Rodent Ulcer, treated by the X-rays.** *British Medical Journal*, January 10th, 1903.

(2) **Mayou, M. S.—The use of X-rays in ophthalmic surgery.** *Lancet*, February 28th, 1903.

(3) **Cassidy, F., and Rayne, F. C.—Chronic Trachoma cured by the Roentgen rays.** *Journ. of Eye, Ear, and Throat Diseases*, March-April, 1903.

(4) **Darier, A.—Introduction to the study of X-rays in ocular therapeutics. (Introduction à l'étude des Rayons-X en thérapeutique oculaire.)** *La Clinique Ophtalmologique*, 10 juillet, 1903.

(5) **Bettremieux (Roubaix).—X-rays in ocular therapeutics. (Rayons-X en thérapeutique oculaire.)** *Ibidem.*

(6) **Fox, L. Webster.—Sarcoma of the Orbit: Report of a case cured by the X-ray.** *Archives of Ophthalmology,* Vol. XXXIII, No. 1, January, 1904.

(7) **Sweet, William M.—Roentgen-Ray treatment of the eye and its appendages.** *Medicine,* April, 1904.

(8) **Darier, A.—The medical application of Radium. (Les applications médicales du Radium.)** *Le Radium,* mai, 1904.

(9) **Darier, A.—X-rays and radium in ocular therapeutics. (Rayons-X et radium en thréapeutique oculaire.)** *La Clinique Ophtalmologique,* 10 octobre, 1903, 25 octobre, 1903, and 15 janvier, 1904.

(10) **Pardo.—Trachoma treated with Roentgen Rays.** *Gazz. degli. Osped.,* April 10, 1904, and *British Medical Journal,* June 4th, 1904, p. 92, supplement.

(11) **Hamer, J. F. X.—Cancer of the Eyelid treated by X-rays. (Carcinoma palp. inf. behandeld met X-stralen.)** *Ned. Tijdschrift v. Geneeskunde,* 1904, No. 12.

(12) **Béclère.—Sarcoma of the orbit cured by X-rays. (Sarcome de l'orbite guéri par les Rayons-X.)** *Gazette des Hôpitaux,* 14 juin, 1904.

(1) **Hall-Edwards** showed at the Birmingham and Midland Counties Branch of the British Medical Association, on December 11th, 1902, a woman, aged 55 years, suffering from rodent ulcer of the nose and eyelids, which had undergone much improvement through exposure to the X-rays. The treatment was continued at intervals for three months. Each exposure lasted about ten minutes. The unaffected parts were protected by a Plaster-of-Paris bandage and tinfoil.

(2) **Mayou** publishes in the columns of the *Lancet* a communication upon X-rays in ophthalmic surgery, read by him at the Röntgen Society, in December, 1902. He discusses the use of the rays in (1) localising and treating metallic foreign bodies in the globe; (2) rodent ulcer of the eyelids; and (3) trachoma. (1) Of 16 cases of supposed foreign bodies in the globe, 13 were found and localised. The technical details of localisation, into which Mayou enters, need not be recapitulated in this place. (2) Mayou points out that the application of X-rays to a part may give rise to an inflammation, leading to anything from a mild leucocytosis to an actual gangrene. The evidence tends to show that the rays do not penetrate deeply. Rodent ulcer is probably cured by a process of leucocytosis, which tends to encapsule or to remove

the morbid material. (3) Mayou alludes to the pathological likeness between trachoma, on the one hand, and lupus, on the other, and surmises that the first-named disease may be due to an organism closely allied to the tubercle bacillus. The existing plans of treating trachoma, he thinks, act in one of two ways: (a) by setting up leucocytosis and cicatrisation of the nodules, or (b) by a direct action upon the causative microbes. He points out that in X-rays we have a means of causing a leucocytosis accompanied by the least possible destruction of tissue, and one that, given due care and experience, is under almost perfect control. He speaks of some fifteen cases that he has treated, but the only one of which he gives details is a girl shown before the Ophthalmological Society in 1902. The amount of exposure to the X-rays varies with the patient. The best cases to treat are the more chronic ones. Lastly, Mayou has also found the rays useful in cases of pannus.

(3) A patient, aged 23 years, had suffered from trachoma for nine years, during which time he had been treated by the usual astringents and caustics, and had also been operated on upon several occasions. He was treated with the X-rays. After the sixth sitting the patient declared of his own accord that his eyes felt better than they had at any time during the last nine years. After the thirty-fifth sitting, all trachomatous granulations had disappeared.

(4) **Darier** indicates in a general way the scope of radiotherapy in the treatment of epithelioma of the eyelids, trachoma, conjunctival tuberculosis, and blepharoconjunctivitis. Mention is made of Stephenson's application of X-rays to a case of tuberculosis conjunctivæ and of Mayou's treatment of epithelioma, lupus, and trachoma. "It is always necessary to go to work prudently, commencing with short sittings of two to four minutes every two or three days, and not exceeding 6–8 ampères and 40 volts. For eye work it is even more prudent not to exceed 3 or 4 ampères and 15–20 volts to begin with. The eye should be 10–25 cm. distant from the tube." W. ERNEST THOMSON.

(5) **Bettremieux** refers to the work of Rust, Mayou, Stephenson, and Walsh. He prefers shorter and more frequent sittings, exposing the eye at a distance of 10–25 cm. to 3 or 4 ampères and 16 volts, every day, or at least 4 or 5 times a week. The sittings last only 2 minutes, and surrounding parts are not protected. The question, whether or not the lids should be everted in the treatment of trachoma, is left open. Bettremieux is very favourably impressed with the action of X-rays in trachoma, especially when there is marked pannus. W. ERNEST THOMSON.

(6) The patient, a Jewess, aged 20 years, was first seen by **Fox** on the 5th of March, 1903. At that time she presented proptosis, great difficulty in raising the upper lid, diplopia at the near point, distension of the upper lid, and protrusion of the conjunctiva. Palpation showed the presence of a growth attached to the bony wall of the orbit, the globe being free. The mass was about the size and the shape of a small olive. There were marked nervous symptoms, consisting mainly in tonic spasms of the extremities. Transillumination of the antrum and the sinuses showed that the tissues over the left antrum were decidedly dark. Exploratory puncture of the antrum was negative, but incision over the anterior and middle ethmoid cells resulted in the escape of a yellow, watery fluid ; no pus, however, could be found behind the eyeball. The diseased cells were curetted and packed. This gave relief to pain, but did not make any difference in the proptosis and the swelling of the lids. A mass of granulation tissue presenting in the wound later was, with some skin and muscular tissue, removed and examined ; the pathological investigation proved it to be spindle-celled sarcoma. The case, being deemed an inoperable one, was treated by the use of the X-ray. A daily treatment of five minutes' duration, with a high vacuum tube placed at ten inches' distance, containing a current of four ampères, was maintained for four weeks' time, the frequency of the treatment then being reduced upon account of an excessive erythema. Forty-six exposures were made. A restoration to a normal condition was apparently produced, as shown by some excellent photographs which accompany the report. There was destruction of the eyelashes and eyebrows, but no pronounced burning or ulceration.

F. W. MARLOW.

(7) After alluding to the value of X-rays in the detection of foreign bodies lodged in the eyeball, **Sweet** remarks that " in all cases of injury to the eyes of workmen engaged in occupations in which particles of metal are liable to break off from the tools or material they are working, and in which there is a decrease in the vision following the accident, a radiograph should be made at once." He urges the necessity of a non-expectant plan of treatment in such cases, for the sooner the foreign body is removed, the larger will be the number of eyes preserved with useful sight. Sweet is of opinion that it is no longer justifiable to resort to the excision of epithelioma and rodent ulcer of the eyelids. He has treated by X-rays over twenty such cases, with success in every instance except two. The case of a patient with rodent ulcer is mentioned, in whom exposure to the focus tube was followed by dulling of the mental faculties next day. As regards the ray treatment

of trachoma and spring catarrh, the author has seen improvement, but in none of the few cases thus treated, actual cure. It is, however, important to note that few of Sweet's cases have been under observation sufficiently long to indicate the probable effects of treatment. S. S.

(9) In the first of these three articles, **Darier**, after pointing out the analogy between the Roentgen rays and those of Becquerel, which are given off by radium, proceeds to emphasize the value of the former even in deep-seated new growths. Passing on to the uses of radium, the author, while stating that his researches on the action of radio-active solutions and salts of radium are not yet ready for publication, gives the following summary of his observations: "(1) Radium, externally applied, is one of the most powerful analgesics, by means of which we have relieved neuralgias, the violent pains of rheumatic iritis, of traumatic iridocyclitis, etc., and the excruciating pains of inoperable cancers. (2) The same kind of application is capable of bringing about a rapid clearing up of the ocular media (an old hæmorrhage into the vitreous was absorbed in ten days). (3) In the form of an ointment very curious results have been obtained in certain cases of blepharitis." Again, "Our researches . . . allow us to hope that by the internal administration of salts of radium we shall be able to allay gastric and intestinal pains, whether of nervous origin or caused by simple ulcer, or by cancer of the stomach or intestine: not to speak of its application by suppositories, pessaries, inhalations. . . . "

The second article, which is on "the physical, chemical, and biological properties of radio-active substances," has been revised by M. Curie, the discoverer of radium.

The third article summarizes the experiments of a number of authors. Danysz found that a specimen of radium of 500,000U. caused congestion of the human skin in a few minutes, and ulceration of a rabbit's skin in 24 hours. Mice exposed to the action of a feeble sample of radium placed under their cage suffered from erythema and loss of hair, and ultimately from dermatitis; other mice exposed to a sample of twice the strength died in six days after having had paralysis and convulsions, without skin lesions. Mice and guinea-pigs of various ages were killed in varying times, after exhibiting nervous symptoms, when a small tube containing a salt of radium was inserted beneath the skin of the back and head. Empty tubes gave control animals no inconvenience. *Ampoules* containing sulphate of barium and radium were introduced into the peritoneal cavity of guinea-pigs and caused no lesion after one to four months. Danysz has come to the conclusion that the youngest elements are the most sensitive to the action of radium, which perhaps explains "the more or less specific action of Becquerel rays on neoplasms, the elements of which may be profoundly modified across a thick layer of other tissues and before the latter have undergone any appreciable alteration." Danysz also found that larvæ of a moth were killed if placed in a glass flask containing radium, but if exposed much less fully they passed into a state of "latent life" and continued to be larvæ without undergoing metamorphosis, even after six months. In this case the emanations had much more effect than the rays. Regarding the action of X-rays on bacteria, experiments have given contradictory results. Rieder, however, obtained positive results. As regards radium, Aschkinass and Caspari obtained arrest of development of *B. prodigiosus* by means of a salt of barium and radium. Caspari found that the action of tubercle and diphtheria bacilli inoculated in animals was profoundly modified by simultaneous injection of radio-active substances. Hoffmann found that 5 milligrames of pure radium bromide placed in a stove for three hours at 23°C. at 3.5 mm. from a culture, absolutely destroyed all spores (from the context presumably of *bacillus prodigiosus*—W.E.T.). *Staphylococcus pyogenes* took much longer to kill, while *anthrax* required 72 hours' exposure to pure radium bromide. Pfeiffer and Friedberger obtained negative results with *typhoid bacillus* and *cholera bacillus* after exposure at 6–10 cm. to .025 milligramme pure radium bromide, but at 1 cm. distant there was complete arrest of the development of the culture. Darier finishes the article with these words: "There can be no possible doubt of the bactericidal action of radium, but the radium must be highly radio-active and placed quite close to the inoculated points." W. E. THOMSON.

(10) **Pardo** reports two cases of trachoma which derived marked benefit from the application of X-rays. The first case was aged 60, and had suffered from double trachoma for three years. In the right eye there was dense pannus, abundant catarrh, and congested iris. The left eye was similarly affected, but to a much less degree. The second case was aged 14, and the disease had lasted two years. A Crookes' tube with a spark about 700 mm. was used at a distance of 45 to 30 c.m. for four to ten minutes at a time. Only one eye was treated, the other being carefully protected with a metallic shield. About six applications were made in each case at intervals of three days. As a result of the treatment the conjunctiva became smoother, the secretion ceased, the pannus cleared, and there was marked improvement in vision in the first case. In the second case many of the tarsal follicles disappeared, the secretion diminished, and there was considerable improvement in the subjective sensations.

(11) **Hamer** got a very striking result from X-rays in a case of cancer of the eyelid, in which microscopic examination of an excised portion of the tumour fully confirmed the diagnosis, showing an epithelial growth, with pearl formations, even in the deepest layers of the lid. The tumour occupied the whole margin of the lower eyelid. After 50 exposures, complete recovery. No relapse after 1.5 years. G. F. ROCHAT.

(12) At a meeting of the *Société médicale des Hôpitaux,* held on 10th June, 1904, **Béclère** presented a patient affected with sarcoma of the floor of the orbit cured by X-rays. The disease had lasted four years. Two operations had been performed, the last one including removal of the eye. All other methods of treatment had failed, but improvement set in as soon as radiotherapy was employed. Histologically, the tumour was found to be a malignant sarcoma.

V.—THERAPEUTICS, OPERATIONS, INSTRUMENTS, AND APPLIANCES.

Villard, H.—The treatment of Trichiasis of the upper lid by tarso-marginoplasty. (Traitement du trichiasis de la paupière supérieure par la tarso-marginoplastie. *Recueil d'ophtalmologie*, mai, 1904, and *Annales d'oculistique*, juin, 1904.

In principle **Villard's** operation is similar to that of Arlt. An intermarginal incision is made behind the cilia and a pedunculated flap of skin from the upper lid is stitched into the interval. When the whole length of the lid is involved, the skin flap is left attached at both ends, but when only a small portion requires restoration the flap is taken from the inner or outer side and has one pedicle only.

J. JAMESON EVANS.

Lane, J. Ernest.—Some principles in the treatment of syphilis. *Clinical Journal,* June 22nd, 1904.

In the earlier stages of syphilis **Lane** gives pills containing one or two grains of the tannate of mercury, a preparation said to cause less gastric derangement than most of the others. However, the biniodide is especially valuable when superficial ulceration of the fauces or buccal mucous membrane supervenes. In case rapid action is desired, as in specific iritis, intra-muscular injections are recommended. For this purpose Lane discards the insoluble salts and employs two soluble salts, namely, the sozoiodolate and the succinimide of mercury. The first is employed as a solution containing 2½ grains of the sozoiodolate and 5 grains of sodium iodide to 100 minims of distilled water, and is injected in doses of 10 to 15 minims.

The second is used in aqueous solution, the dose of the salt being one-sixth to one-quarter of a grain. To begin with, the injections are made three times a week, and, subsequently, at longer intervals. A series of from 20 to 30 injections, spread over three or four months, constitutes the initial course. An interval of three months is then to be followed by a four months' course, and so on, gradually increasing the length of the periods of intermission and diminishing the periods of treatment. Finally, it may be noted that Lane does not begin mercurial treatment until such time as the skin or mucous membranes show undoubted manifestations of syphilis.

Abadie, Ch.—Tuberculous iritis and its treatment. (De l'iritis tuberculeuse et de son traitement.) *Archives d'ophtalmologie*, mars, 1904.

Abadie has a somewhat optimistic article upon tuberculous iritis and its treatment. After commenting upon the present-day frequency of the affection, he passes on to consider its diagnosis. At an early stage tubercle may be confused with syphilis of the iris (hereditary or acquired), and we must then appeal to the results of specific treatment before we can make the distinction. Later, however, tuberculous lesions tend to invade the entire anterior segment of the eye, and, later still, the whole eyeball. In the presence of widely spread tuberculosis of the eyeball, enucleation is the only resource, but Abadie considers the earlier stages of the disease amenable to treatment. In support of these views he relates two cases, the first in a child of 6 years, and the second in a woman of 19 years. Under internal treatment by "iodogenol" (an organic compound of iodine) and "carnine Lefrancq" (a muscular extract) both cases made a good recovery, despite the threatening nature of the symptoms. Two further cases are briefly mentioned. Considerable importance is attached by Abadie to inunctions of cod-liver oil and guaiacol in the treatment of tuberculous iritis. Raw meat may be substituted for the "carnine" if desired.

Hirschberg, J.—A new giant magnet. (Ein neuer Riesen-Magnet.) *Centralb. für prak. Augenh.*, Juni, 1904.

Hirschberg describes a new giant magnet, which has been made for him by the firm of Dörffel and Färber, of Berlin. It is a very powerful instrument with an extremely useful method of suspension from a wall, by means of which it can be raised or lowered and turned about any axis. A. LEVY.

Hirschberg, J.—The instruments of the Arabian oculists. (Die Instrumente der Arabischen Augenärzte.) *Centralb. f. praktische Augenheilkunde,* Juni, 1904.

Black, Melville.—A new cataract knife. *Ophthalmic Record*, February, 1904.

Black's knife is modelled after the von Graefe style, with the addition of a probe point, and is intended to supplement the use of the von Graefe knife in those cases in which the aqueous humour has been evacuated after the counter-puncture has been made, and before the section has been completed. The author advises in these cases that the von Graefe knife be withdrawn, and, if necessary, the iris be smoothed out with a spatula. The speculum is then removed and the eye is allowed to rest with closed lids for a few moments, in order to permit a partial regeneration of aqueous humour. The lids may then be held apart or the speculum reinserted. The eye is fixed, and the probe-pointed knife is carefully introduced through the original puncture, and advanced over the iris. out through the counter-puncture, the section being completed by direct pressure rather than by a sawing movement. The author says that if this *technique* is followed there is little likelihood of injury to the iris tissue. Probe-pointed knives, for the purpose of enlarging corneal incisions, he believes, have been made prior to this one, but have had concave edges, while the cutting edge of this instrument is straight. Instrument made by Tiemann & Co., New York.

STANLEY SMITH.

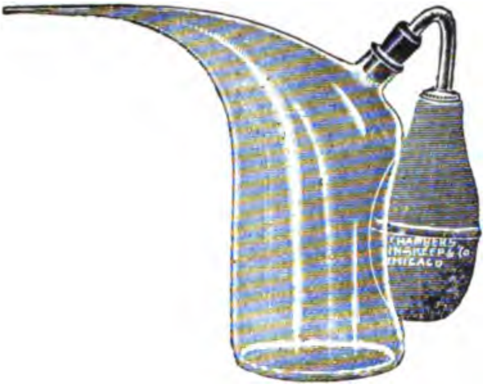
James, J. H.—A simple operation for entropion. *Ophthalmic Record*, February, 1904.

This operation, which is ascribed to Allport, of Chicago, U.S.A., is described as follows : The skin, from the border of the lid upwards, is stretched as much as possible. Three or four sutures are passed directly through the eyelid at the upper border of the cartilage, care being taken to engage the cartilage in the suture. The suture is then passed back again, one-eighth to one-fourth of an inch from the point of insertion, and is tied firmly. The sutures are removed in one week's time. Cicatricial adhesions are formed between the skin and the upper border of the cartilage, thus permanently everting the lid border. The operation is said to be suitable for mild cases.

STANLEY SMITH.

Todd, Frank C.—An improved eye irrigator. *Ophthalmic Record*, February, 1904.

The irrigator described by **Todd**, as shown in the cut, consists of a bottle which is shaped something like the horn of a cow, the spout being situated at the smaller end. Midway upon the greater curvature of the bottle is attached a bent glass tube, at the end of which there is a rubber bulb. By means of air-pressure generated by squeezing this bulb, any fluid contained in the bottle will be expelled with a degree of force entirely under the control of the operator. This irrigator, the author says, is of special value in the treatment of ulcerative keratitis and purulent conjunctivitis, as sufficient force can be applied to cleanse the surfaces thoroughly. The bottle and bulb can easily be held in one hand, and the base of the bottle is made broad enough to be set down without danger of upsetting.



STANLEY SMITH.

Oliveres, A.—The treatment of corneal opacities by the subconjunctival injection of benzoate of lithium. (Traitement des taies de la cornée par des injections sous-conjonctivales de benzoate de lithine.) *La Clinique Ophtalmologique*, février, 1904.

After having convinced himself that in rabbits a 1% solution of benzoate of lithium injected beneath the conjunctiva is well borne and absorbed readily, **Oliveres** tried this means of treatment with success in three cases of leucomatous corneæ. The author formulates the following conclusions: (1) Subconjunctival injections of benzoate of lithium speedily produce a clearing of corneal opacities and an improvement in the acuteness of sight. (2) In the three patients treated the maximum effect was brought about by three to six injections of ten drops of the solution. (3) Injections should be preferred to instillations of benzoate of lithium, since the former are quickly absorbed, penetrate all the layers of the cornea, and thereby act much more quickly and completely. (4) Subconjunctival injections of 1% benzoate of lithium are admirably supported, and give rise to no irritation.

A. DARIER.

Schering's Formalin.—An antiseptic, disinfectant, deodorizing and hardening agent. *Therapist*, June, 15th 1904,

For septic lesions of the cornea and abscesses of the eye a solution of formalin, 1 : 2,000, is recommended to be applied every hour; for ophthalmia neonatorum, 10 drops of formaline to half a litre of water; and in painful gouty congestions of the eye, formalin 0.005, cocaine hydrochlor. 0.1, and distilled water 10.

Spratling, William P.—The non-operative relief of eye strain for the possible cure of epilepsy as tested in sixty-eight cases at the Craig Colony. *American Medicine*, 9th April, 1904.

This communication, which is practically a report by the Medical Superintendent of the Colony for Epileptics, gives the result of an extensive and apparently very thorough test of the importance of ametropia as an etiological factor as judged by the effects of its correction. In the total number of patients treated, heterophoria of importance was present in but one instance. Records of the attacks in all of the cases were kept for a period of three months previous to the use of the correcting lenses. The table of results shows also the number of attacks during periods of three months, six months, and twelve months following the use of the glasses. The paper is too long and too filled with statistics and detail to allow of any satisfactory condensation. The results, however, of the experiment in sixty-six of the cases may be detailed as follows: (*a*) in one case there was an arrest of the attacks, and cure seems probable; this was in a thirty-eight-year old man who had been subject to attacks of *grand mal* since seventeen years of age; (*b*) five previous arrests possibly sustained by use of glasses; (*c*) in eleven cases an apparent decrease in the attacks; (*d*) in sixteen cases there were not any changes; and (*e*), in thirty-three cases, the attacks increased. The examinations were made by Dr. George M. Gould, of Philadelphia, assisted by Dr. A. J. Bennet, of Buffalo. Cycloplegia, by the use of homatropine and cocaine, was obtained. The prescriptions were ordered by Dr. Gould. There is an addendum to the paper by Dr. Gould, whose analysis of the results is somewhat more favorable as regards the etiological importance of eyestrain in epilepsy than that of Dr. Spratling. FRANK W. MARLOW.

Herbert, Major H.—Subconjunctival fistula formation in the treatment of primary chronic Glaucoma. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

According to the interesting experiences of Major **Herbert**, most cases of primary glaucoma met with in the East Indies are essentially of chronic nature, and the patients submit themselves to operation late in the course of the disease—that is to say, when but little sight remains. Hence, iridectomy often enough fails to relieve heightened tension, and the operation may, indeed, destroy sight on account of such complications as loss of vitreous, expulsion of lens, and hæmorrhage from the fundus. Herbert believes that our views with respect to the operative treatment of chronic glaucoma need revision, since too much has been made of late infection and too little of the fact that fistulous scars provide the only certain means of affording relief in some cases, more especially when iridectomy has already failed or seems likely to do so, or when, as in India, patients are apt to content themselves with the result of a single operation.

Herbert has noticed that the most successful iridectomies were precisely those, where by chance, the iris had healed into the operation wound. This observation, together with a knowledge of the fact that iritis did not occur in prolapses that were covered with conjunctiva, although it is very apt, at least in India, to complicate large uncovered prolapses, led the author purposely to leave the iris prolapsed in 130 operations performed by him in cases of primary glaucoma. Of these cases, 48 were seen again at periods varying from six months and upwards, and these selected cases have been incorporated in and used as a text for the present communication. The weak point about the operation advocated by Herbert is the possibility of exciting sympathetic loss of the fellow eye, but, after all, the chances of this occurring are very remote. None of the eyes so far operated on have been lost by late infection, a fact bearing testimony to the protective influence against sepsis exerted by the covering conjunctiva. Nevertheless, two cases manifested inflammation which set in immediately after the operation, a complication apparently due to organisms introduced at the time of operation. One of these cases ended in partial occlusion of the pupil, and the other in total loss of the eye, with sympathetic ophthalmitis of the fellow eye. As regards early infection and its possible sympathetic extension to the other eye, Herbert writes:—"Possibly such an accident may be more liable to complicate the prolapse operation than to complicate simple iridectomy, but in any case it should be entirely preventable." In this instance the inflammation in the excision of the eye was neglected. From experience of infective inflammation in cataract operations, Herbert places great reliance upon the curative influence of mercury, given (after enucleation) regularly and very freely. Even in India patients usually return at once for the treatment of late infections, especially if they have been warned that such may possibly occur.

The relief of tension by a fistulous cicatrix appears to be both certain and permanent. The prolapsed loop of iris, however, takes some little time to become fully pervious, so that the preliminary fall of tension due to the surgical wound in the ocular tunics, is apt to be followed by a period of slightly raised tension, lasting even up to one or two months. This untoward symptom seems to be under the control of daily massage, together with the occasional use of physostigmine. In many of the eyes operated on by Herbert, the tension was finally about *minus* I. The effect of fistula formation upon sight has proved, in the author's experience, much more favourable than could be expected from simple iridectomy in the same patients. Herbert believes that a small iridectomy should always be combined with the operation for the making of a subconjunctival fistula. This is more particularly called for when the iris has become tough and fibrous from atrophic changes.

There is another occasional early complication of the operation to be mentioned, namely, a delay in the refilling of the anterior chamber, due to leakage through the imperfectly healed wound, and perhaps also to deficient secretion of the aqueous humour. In one unfortunate case, the iris became atrophic and the lens cataractous, and the latter was extracted after a month from the empty anterior chamber ; sight, equal to fingers at 3 feet before the operation. fell to the perception of moving objects after. The remaining complications observed by Herbert are : (1) a small escape of vitreous, and (2) a large fundus hæmorrhage, re-absorbed later.

A few words respecting the *technique* of Herbert's operations and experiments may not be out of place. The aim is to make as tiny a prolapse as possible. As stated before, a small iridectomy should always be done. Physostigmine is not to be used prior to the performance of the operation. The sclero-corneal section (4 mm. or 5 mm. long), should be made preferably with a Graefe's knife worn thin by long usage. The direction of the blade must be altered but little throughout. as otherwise the counter-puncture is difficult to make in this short incision. In some cases Herbert has produced iris-free fistulæ by conjunctival infolding. He performs a small sclerotomy, associated with a very long conjunctival flap. the latter being then tucked into the anterior chamber, folded so that its end remains outside. The conjunctiva does not remain infolded for long, for after a few days, the proximal part of the flap lies as a distended fold over the scleral incision. This method of operation, however, proved to be uncertain in its results. More recently Herbert has added a suture, and performed ten operations in this way with fairly promising results. "A small, sharp curved needle was used, with sterilised silk thread; the double thread was knotted about one or two inches away from the needle. The point of the latter was passed through the centre of the conjunctival flap and down through the sclero-corneal wound, into the anterior chamber, and brought forward through the cornea. When the thread was pulled upon the knot drew down the centre of the conjunctival flap, and pressed it against the posterior surface of the cornea. This knot was retained in position by a second knot, immediately in front of the cornea, got by cutting away the needle and tying together the two ends of thread thus set free. . . . . . The suture was removed after twenty-four hours." Herbert has also tried, unsuccessfully, two other ways of forming a satisfactory sub-conjunctival fistula, *viz.*: (*a*) by a temporary prolapse of the iris, and (*b*) by the sub-conjunctival insertion of a piece of bent capillary glass-tubing through sclero-corneal punctures. It is right to add that these last experiments were made only upon eyes blinded by absolute glaucoma. S. S.

(1) **Oliver, Charles A.—The so-called Mydriatics, their actions, their use, and their dangers. (Die sogenannten Mydriatika, ihre Wirkungen, ihre Anwendung, und ihre Gefahren.)** *Woch. f. Therapie u. Hygiene des Auges*, 18 Februar, 1904.

(2) **Treutler.—Remarks upon the above article. (Bemerkungen zu dem Aufsatz von Ch. A. Oliver ueber "Die sogenannten Mydriatika, ihre Wirkungen, ihre Anwendungen, und ihre Gefahren.")** *Ibidem*, 10 März, 1904.

(1) This is an abridged translation of **Oliver's** article on mydriatics originally published in the *Annals of Ophthalmology*, Vol. XI, 1903, p. 589 (for abstract see OPHTHALMOSCOPE, August, 1904, p. 340).

(2) An argumentative article dealing with several points raised by Oliver's communication, such as the age of the patients experimented upon, the purity or otherwise of the drugs employed, and so forth.

Fernandes and Van Swieten.—Nine cases of chronic frontal sinusitis operated upon by the method of Goris. (A propos de neuf cas de sinusite frontale chronique, opérés suivant le procédé du Dr. Goris.) *Annales de l'institut chirurgical de Bruxelles*, Vol. XI (1904), No. 16.

Goris's operation is as follows: An incision is made starting from the inner end of the eyebrow and extending along the eyebrow as far as may be rendered necessary by the size of the sinus. The anterior wall of the frontal sinus is next trephined and then resected. A large raspatory is then slid into the orbit, the periosteum covering the lower wall of the sinus separated, and the latter resected. The orbital cavity is prevented from infection by preservation of the periosteum. The infundibulum is enlarged by means of a curette and gouge, so as to make an opening large enough to admit the little finger. The cavity is scraped, cauterised with zinc chloride (10 %), and drained through the fronto-nasal canal into the nostril. The upper end of the drainage tube should not extend beyond the level of the opening into the infundibulum. The wound is sutured, and a pad is firmly applied. None of the nine patients operated upon by **Fernandes** and **Van Swieten** by this method developed any ocular complications. The pulley of the superior oblique was never damaged. The patients were cured in eight or ten days, and the æsthetic result of the operation was perfect. H. COPPEZ.

Scalinci, N.—A clinical contribution to the treatment of conical cornea with the galvano-cautery. (Contributo clinico alla Cura del Cheratocono con la Galvano-Caustica.) *Annali di Ottalmologia*, Vol. XXXIII, Fasc. 1-2, p. 81.

After having related at length fourteen very convincing cases, **Scalinci** concludes that the most certain means of curing keratoconus consists in replacing the affected part by cicatricial tissue, and that this can best be done by repeated galvano-cauterisations. In order to be really efficacious, these cauterisations should be made to the most affected part—that is to say, the central portion of the cone. Paracentral cauterisations around the base of the cone give merely transitory results, and should be practised in exceptional cases only. The cauterisations should gradually become more profound, inasmuch as it is necessary to obtain a deep cicatrix, so as to involve the entire thickness of the cornea. In the most pronounced cases of conical cornea, the cornea should be perforated, even although the summit of the cone retains its transparency. The perforation should be made with the galvanic loop and never with the needle, a proceeding devoid of danger if proper precautions are adopted. A. ANTONELLI.

Péchin, A.—Star-like cauterisation of the cornea. (Cautérisation étoilée de la Cornée.) *Archives d'ophtalmologie*, T. XXIII. (1903), p. 519.

Cauterisation of the cornea is an operation recommended by **Péchin** to reduce the volume of an eye affected with staphyloma of the cornea or hydrophthalmos. No infective or toxic processes must be present at the moment of operation. The method of operation is that employed by Dianoux, who makes a series of cauterisations converging from the limbus towards the centre of the cornea, and, finally, perforates that spot, so as to empty the anterior chamber. The operation is performed under cocaine, and may have to be repeated several times. It is followed, according to Péchin, by no reaction. The recti muscles may be divided in case the cauterisation gives rise to too marked a shrinkage of the eye. The appearance of the eye may subsequently be improved by tattooing.

H. de V.

Stretton, J. Lionel.—Ectropium forceps. *Lancet*, January 30th, 1904.

Forceps larger than usual, and fixed with a rack instead of a screw, intended (despite the title) to hold the eyelid during the removal of a tarsal cyst, are described and figured by **Stretton.** Makers: Arnold & Sons, London. (*See* OPHTHALMOSCOPE, Vol. I., p. 112.)

Godts.—On the employment of Collargol in ophthalmology. (De l'emploi du Collargol en ophtalmologie.) *Société médico-chirurgicale d'Anvers*, avril, 1903.

That collargol possesses antiseptic powers has been proven by the numerous experiments made with cultures of various micro-organisms. This action, however, is always feeble. Netter and Salomon think that, apart from the bactericidal action, the inhibitory properties of collargol may be due to a catalytic power, analogous to that of ferments. Perhaps also there may be an increase of the local defensive power of the eye by more abundant polynuclear leucocytosis, and consequently a more marked antitoxic action. Collargol is aggressive as regards pathogenic micro-organisms, especially preventing the development of the latter, while it is not very active against living bacteria. It is neither caustic nor irritant, and owing to these properties, it merits a distinct place in the treatment of those affections of the eye where the use of antiseptic collyria is apt to be painful. To these advantages collargol adds those of ready absorption and great penetration, properties that should favour its employment in some of the deeper affections of the eye, as iritis and iridocyclitis. Lastly, the adhesive powers of the collyrium as regards albumen augment the duration of its action. The recent introduction of silver colloid and the relatively small number of cases where it has so far been tried, do not lend themselves to comparisons, neither do they permit of definite conclusions.

In ophthalmoblennorrhœa the salts of silver are regarded as specifics, and in this respect collargol has shown itself equal to the other members of the silver group. Godts gives particulars of a serious case which, after resisting silver nitrate, was promptly cured by instillations of collargol, 5 per cent. This success, like others equally convincing, justifies the use of the medicament in clinical ophthalmology. In dacryocystitis collargol has proved most useful. Combined in certain cases with treatment by probes, it dries up the secretion in a far shorter time than when the probes are employed alone. **Godts** tried collargol with success in dacryocystitis in a newly-born baby, where probes could not be used.

A. DARIER.

Noble, Charles P.—Personal experience in operations in diabetic patients. *American Medicine*, September 26, 1903.

There exists, as **Noble** remarks, a general impression that diabetes mellitus is one of the gravest complications to be met with by the surgeon, and that the sloughing rather than the healing of wounds is to be expected. Ophthalmic surgeons have long believed that extraction of cataract from diabetic subjects is especially liable to be followed by suppuration. Under these circumstances it may be useful to mention Noble's experiences, and to give his conclusions. Briefly, Noble has operated upon seven patients, suffering from diabetes, for mammary cancer, appendicitis, hernia, procidentia uteri, and recto-vaginal fistula. Six of the patients made good recoveries, and one died from diabetic coma. As the result of his experiences, Noble now postpones operation upon diabetics when more than 2% of sugar is present in a total excretion of three pints of urine per day. He advises preliminary treatment by diet and by the administration of codeia and strychnine. He regards the contraindication to operation as strongest in those patients showing the constitutional symptoms of diabetes, such as poor nutrition, wasting, intense thirst, and morbid appetite.

Lange, G.—On the prognosis and treatment of infected, perforated wounds of the eye. (Zur Prognose und Therapie der perforierenden infizierten Augenverletzungen.) *Klin. Monatsbl. f. Aug.*, Septemberheft, 1903.

In consequence from a stab from a hair-pin there developed quickly in **Lange's** patient a severe, purulent uveitis, with pus in the vitreous body, and participation of the retina. V.=O. Treatment included thorough irrigation of the conjunctival sac with 5: 1,000 cyanide of mercury, removal of the loose tags of tissue hanging from the wound, burning of the wound track with the incandescent loop of the galvano-cautery, inunctions, according to Schirmer's recommendation, of two grammes daily of grey ointment, and rest in bed with both eyes bandaged. Judging from the position and depth of the wound in the eyeball, the hair-pin must have passed through the ciliary body into the posterior chamber and vitreous cavity; damage to the lens was not necessarily present. The disease ran a very favourable course, and the patient recovered good sight. This the author is inclined to ascribe to the rapid and thorough destruction of the source of infection by the galvano-cautery, and the rapid absorption of the inflammatory products to the effect of mercury.

Woch. f. Ther. u. Hygiene des Auges, 3 Dezember, 1903.

Eaton, F. B.—Some forms of irregular astigmatism; their detection and correction. *Ophthalmic Record*, October, 1903.

Joyce, Robert D.—Punctured injury of the eyeball. *Brit. Med. Journal*, November 28, 1903.

Ensor, H. Collen.—An operation for ptosis. *Brit. Med. Journal*, September 26, 1903.

Ensor's operation is as follows: an incision is made down to the periosteum extending from the internal to the external angular process of the frontal bone. A second incision through skin only, is made from the extremities of and below the first incision. In this way a portion of skin, hemispherical in shape, is removed with scissors. Pacquelin's cautery is then applied to burn the tissues at the upper part of the wound, thus charring the tissues down to the bone, and the orbicularis is also burned with the object of weakening that muscle. The wound is dressed and allowed to granulate up.

Gàlezowski.—Aspirine and its action in rheumatic iritis. (Aspirine et son action dans les iritis rhumatismales.) *Recueil d'ophtalmologie*, XXV (1903), p. 179.

The internal administration of aspirine is recommended by **Galezowski** in the treatment of gonorrhœal iritis, gouty scleritis, and neuralgia of the fifth pair of nerves.

H. DE V.

Ramsay, Maitland.—On the Cosmetic Value of Paraffin after Enucleation. (Sur la valeur cosmétique de la paraffine après l'énucléation.) *La Clinique Ophtalmologique*, 25 mars, 1903.

Ramsay's method of forming a good stump consists in securing and attaching to the conjunctiva the four recti muscles with catgut ligatures before separating them from the globe. The eyeball is then enucleated and the capsule of Tenon packed with gauze. A strong purse-string suture is then placed in position, the gauze is removed, the purse cavity is held open, sterilized paraffin of 40° C. is injected, the purse is tightly closed by the suture, the catgut muscular sutures are then tied—the superior with the inferior, the external with the internal. Adrenalin is used to check hæmorrhage before the gauze is packed into Tenon's capsule. There is only moderate reaction; the purse-string is not removed until after the fifteenth day; and eight days later an artificial eye can be applied, although it must not be too large. The author has performed this operation on 22 cases with four failures. The conditions of success are: (1) antiseptic precautions; (2) the eye must not be in a suppurating condition; and (3) the sutures must be carefully placed.

NOTE.—In the *Ophthalmic Review* for July, Ramsay includes twelve more cases, and states that he now *distends* the capsule of Tenon with paraffin injected through a special syringe, round the nozzle of which the purse suture is tied during injection. The subsequent shrinkage of the paraffin, when cold, prevents over-distension.

W. ERNEST THOMSON.

Chandler, H. Beckles.—Report of three hundred and twelve cases of Cataract Extraction with a small peripheral button hole in the Iris. *Archives of Ophthalmology*, Vol. XXXIII, No. 1, January, 1904.

Chandler regards the tendency to prolapse as greatly diminished by this method of operating. He removes a small piece of iris (one millimèter diameter) as near the ciliary border of the iris as possible, through which aqueous can escape if the wound reopens during the healing process. Four prolapses occurred in the series; two as the result of direct violence after the anterior chamber had been re-established, and the other two upon the second day—the opening having been made too near the pupil. F. W. MARLOW.

Steindorff, C.—A case of gun-shot wound of both eyes. (Ein Fall von Schuss-Verletzung bei der Augen.) *Centralbl. f. prak. Augenheilkunde*, September, 1903.

According to statistics of the Franco-Prussian war (1870-1871), of 99,566 wounds of the body generally, 806 (or 0.86%) damaged the eye. The eye itself was injured 786 times—that is, by shot 709 times and by other means in the remainder. Information gathered from the records of other wars tallies with these figures. In times of peace, shot-wounds are rarer, and are mostly the outcome of attempted suicide or murder. Hirschberg has shown how often shots into the temples of would-be suicides destroy, not the life, but the eyesight. Of those who shoot themselves in the right temple, one-half die, and of those who survive, one-third lose the sight of the right eye. Exceptionally, bilateral blindness results. The injury may be of several different kinds, as under: (1) disorganisation of the eyeball; (2) tearing of the optic nerve in orbit or optic foramen; (3) contusion of eyeball leading to internal hæmorrhage and rupture of the retina and choroid; (4) disturbances of motility by crushing of the muscles and nerves, injuries that, however, seldom occur alone. In all these various forms of injury, one eye alone is, as a rule, damaged.

Steindorff reports a case where, after an attempt at murder, a contusion injury affected both eyes. The facts are as follows: a girl, 19 years of age, was shot by her lover in the left temple. She was immediately blinded and rendered unconscious for three days, during which time she constantly vomited blood. The bullet, as evidenced by an X-ray examination, remained embedded in the skull-cap, whence no attempt was made to remove it. Four mm. from the external canthus was a scab, umbilicated, blackened with powder, and the size of a pea, corresponding with the point of entry of the bullet; no place of exit was to be seen. There was slight exophthalmos of the right eye and ptosis. On the left side the oculo-motor and abducens nerve were paretic. Both pupils were rigid, the right measuring 7 mm. and the left 6.5 mm. in diameter. R.V. = fingers: L.V. = nil. Ophthalmoscopically, the right optic disc was found to be pale, and the retinal arteries narrow. The papilla was surrounded by a bluish-white mass, which concealed the vessels above. There was hæmorrhage extending into the vitreous body. The choroid was ruptured above the optic disc. The left optic disc and its neighbourhood were concealed by blood and by a pigmented formation; the retinal vessels were threadlike; and the choroid was ruptured. Steindorff surmises that both optic nerves had been torn by the gun-shot wound.

S. S.

Arlt, F. R. v.—A practical lamp for eye work. (Eine praktische Ordinationslampe.) *Wochens. f. Therapie u. Hygiene des Auges*, 11 Februar, 1904.

Arlt recommends an osmium lamp to supplement daylight in the examination of eyes when the latter is insufficient. He also employs it for illuminating test types, and in testing colour-vision, as well as for focal illumination and the ophthalmoscope.

VI.– MISCELLANEOUS.

Goldzieher, W.—On the prognosis of malignant tumours of the choroid. (Zur Prognose der bösartigen Aderhautgeschwülste.) *Centralb. für prakt. Augenh.*, May, 1904.

Goldzieher describes a case of melanotic sarcoma commencing at the limbus and involving the ciliary body and iris, on account of which the eye was removed. The patient died ten years later of melanotic sarcoma of the lumbar spinal column, with numerous metastases in the skin. There was no recurrence in the orbit. A. LEVY.

Wray, Charles.—Civilisation and Eyesight. *General Practitioner*, August 29, 1903.

The summary of **Wray's** paper is as follows : (a) accidental or traumatic myopia has a real existence ; (b) most cases of myopia over 2D. are due to non-hereditary causes ; (c) it has not been proved that acquired myopia is transmissible ; (d) there is strong evidence that such myopia is not transmissible ; (e) a high myopia generally postulates a myopic origin ; and (f) the theory of probabilities lends itself to this particular form of investigation.

Widmark, J. E.—Contribution to the etiology of Myopia, *American Journal of Ophthalmology*, January, 1903.

Hansell, Howard F.—Hallucinations of Vision. *American Medicine*, January 16, 1904.

After describing the erroneous mental conceptions now and then induced by diseases of the interior of the eye, **Hansell** relates a curious case where a young woman, born blind, became insane and was placed in an asylum. The eyes were painful, and so both were enucleated. A few days after the operation the patient's mind regained its former clearness and all delusions vanished. In a short time she left the Asylum, and resumed her occupation of teaching. The insanity (of the delusional type, associated with pain in the head) had been of brief duration.

Trousseau, A.—The prognostic value of subconjunctival ecchymoses. (Valeur pronostique des ecchymoses sous-conjonctivales.) *La Clinique Ophtalmologique*, janvier, 1904.

It is generally taught that in patients who suffer from cardiac mischief or from arterio-sclerosis, sub-conjunctival ecchymoses may precede retinal or cerebral hæmorrhages. **Trousseau** believes that this view rests upon a very slender basis of fact. Any effort—coughing, sneezing, vomiting, labour—may produce the conjunctival bleeding. Spontaneous hæmorrhage is rare, if not actually unknown. The frequency of the lesion in children with whooping cough, and in some adults with coryza, is an encouraging feature, inasmuch as children certainly have no marked predisposition either to retinal or to cerebral hæmorrhages. In a hæmophilic or scorbutic subject, conjunctival ecchymosis is merely a symptom of disease, and does not modify prognosis in the least. Trousseau concludes that the ominous significance of sub-conjunctival ecchymoses has been exaggerated, and suggests that we may always reassure patients who have been unjustly alarmed on that score. Amongst 81 cases Trousseau has never seen the lesions—that is to say, conjunctival, retinal, and cerebral hæmorrhage—related to one another. A. DARIER.

Hamill, S. M.—Congenital Heart Disease, with interesting Eye findings. *Pediatrics*, May, 1903, and *American Medicine*, Sept. 26th, 1903.

This case is reported by **Hamill**, who believes that the remarkable condition of the eyes of the patient was due to the extreme degree of cyanosis, from which he suffered. The boy was 9 years of age, the value of the report being lessened by the fact that no autopsy was permitted. The report of Dr. W. Campbell Posey, who made the eye examination, is as follows: The eyeballs are prominent. The conjunctival vessels, both those of the globe and those of the lids, are swollen, especially the veins, giving the eye a dark purplish appearance. The pupils are large and the media clear. The findings of the ophthalmoscope were very striking and consisted in a neuroretinitis of marked degree. The retinal arteries and veins were greatly swollen and tortuous, resembling large angle-worms. The head of the optic nerve was obscured by the swollen retina and there were a few small hæmorrhages into the nerve fibre layer of the retina close to the disc. The light reflex from the vessels was greatly broadened, that of the veins the more so. He has not seen the retinal vessels of a larger calibre than normal.

Elschnig.—The diagnostic and prognostic signification of diseases of the retina in nephritis. (Die diagnostische und prognostische Bedeutung der Netzhauterkrankunden bei Nephritis.) *Wiener mediz. Woch*, II u. 12, 1904, and *Wochenschr. f. Therapie u. Hygiene des Auges*, 26 Mai, 1904.

Elschnig has investigated the condition of the fundus oculi in 199 patients suffering from renal disease, with results that are given below: Normal, 37.5 %; tortuous retinal vessels, 30 %; slight atypical retinitis, 7.5 %; severe atypical retinitis, 12 %; typical retinitis albuminurica, 6.5 %; retino-choroiditis albuminurica, 3 %; and other diseases of the retina, 3.5 %.

REVIEWS.

Ocular Therapeutics (according to the most recent discoveries). By Dr. A. DARIER of Paris. Translated by SYDNEY STEPHENSON, M.B., C.M., Honorary Secretary of the Ophthalmological Society of the United Kingdom, etc. London: J. and A. CHURCHILL, 1903. Pp. 272; price 10s. 6d. net.

A book which goes thoroughly into the subject of ocular therapeutics has recently been published in French by Dr. A. Darier, under the title of *Leçons de Thérapeutique Oculaire.* In order to render it available to English oculists a translation has been made from the 2nd French edition by Mr. Sydney Stephenson. The original work was awarded the Desportes Prize, 1902, by the French Academy of Medicine as "the best work published on practical therapeutics." Dr. Darier is such a well-known exponent of ocular therapeutics in England as well as in France, and Mr. Stephenson is also known in this connection in the two countries, that, as we should expect, the book is thoroughly up-to-date, and contains a large amount of information derived from practical experience.

The drugs that of recent years have been advocated and have proved themselves of more or less use in ophthalmic work are so numerous that there can be but few practitioners who have given anything like all of them a trial. Darier has certainly done more than most experimenters to find out which are useless and which are of value. It is therefore a great help to read his conclusions. No pains have been spared in acquiring the knowledge, and we find the actions of all sorts of drugs, many of which are by no means in daily use, carefully discussed. Darier is an enthusiastic supporter of sub-conjunctival injections, the *technique* of which he describes minutely. He is also an advocate of hypodermic and intravenous injections of certain drugs, such as mercury, which he finds most convenient to use in the form of the cyanide, as this is less irritating than the sublimate. The pain of sub-conjunctival injections can be controlled by the addition of a few drops of acoine (1 %) to each dose. He has practically given up the use of nitrate of silver, substituting for it the numerous other silver preparations, of which he holds protargol to be the most valuable. Massage he finds useful in many cases, and it is of particular benefit in reducing the intraocular tension in cases of glaucoma. The English reader may find it a little confusing to have all the proportions given in the metric system, as is done throughout the translation, but, after all, that is the only scientific way of expressing formulæ.

The book must be read in order to appreciate the profound belief the author has in the drugs and medicaments advocated. If the latter give as good results in everyone's hands as in Darier's, it seems that nearly every pathological condition will yield to their effects. Whether experience will prove these to be facts remains to be seen, but anyhow we have nothing but praise for the work, which is interesting, complete, and most suggestive. There is no other book of the kind in English equal to it, and we congratulate Mr. Stephenson on having supplied at once an excellent translation and a real want.

NOTES AND ECHOES.

Presentation to Mr. W. R. Hall.

AN interesting little function took place at 30, Cavendish Square, W., on August 24th, 1904, when an illuminated testimonial, together with a substantial cheque, was handed to Mr. W. R. Hall, who for upwards of fifteen years has acted as resident librarian of the Ophthalmological Society. Mr. Hall unfortunately has been compelled to relinquish the post owing to indifferent health. The meeting although small, was representative. Mr. W. Adams Frost, honorary librarian of the Society, in making the presentation, spoke in feeling terms of Mr. Hall's courtesy, tact, and ability, and assured him that he carried into his retirement the good wishes and sympathy of every member of the Society.

* * * *

Report of the Medical Officer of the School Board for London.

THE Report for the year ended 25th March, 1904, of the Medical Officer of the (late) School Board for London has reached us. It contains a great deal of interesting matter, but those points connected with eye work only can be touched upon in these columns.

* * * * *

Vision.

SINCE Whitsuntide, examinations have been conducted by six instead of eight oculists as formerly. Under the new system, teachers test the acuteness of sight, and make a return of children with poor vision—that is, V. = $\frac{6}{18}$ or less, and in Standard V, or above, V. = $\frac{6}{12}$ or less. The task thus thrown upon the teachers is said to have been carried out fairly well, although in some cases "as many as a fifth of the children returned as defective by the teacher are afterwards found to be normal by the oculists." Spectacles are expensive for poor parents to purchase, a fact of which we are reminded by the report of one of the oculists, who found that 21% of the boys' and 17% of the girls' glasses had been either broken or lost. It is hardly surprising under these circumstances to find Dr. Kerr, the medical officer, suggesting that the exact correction of ametropia in young children by sphero-cylinders is scarcely necessary. "The gain to the vision," he remarks, "is not commensurate with the increase in cost, and it might be worth consideration whether plain spheres (*sic*) should not be ordered as frequently as possible." A further statement (worthy of note at the present juncture) is made that "practically all the compound sphero-cylinders one comes across fitted by opticians are wrong." Another matter of some importance is raised in the case of candidates seeking employment under the Board, but debarred by reason of poor sight. Out of 195 such persons 38 consulted private doctors, while 157 became hospital patients. That 80% of the candidates should be compelled to seek advice from public institutions points, the *Report* says, to a public want. Practically, there is no middle way between paying the customary fee to a specialist or going to a hospital. "Here the advertising quack, under the specious title of 'Ophthalmic Optician,' finds among such people a large field, and reaps his harvest, many of these people paying six or eight times their value for glasses, which, by stimulating their accommodation, help them to see more clearly for a time, but often set up eye strain and sometimes lead to permanent troubles." What a testimonial to the belauded competency of our friend the sight-testing optician!

In addition to supervising the sight of the children, the Board's oculists now report upon the school conditions, as lighting, heating, ventilation, seats and desks, general environment of the school work, and so forth. In order to meet the prevalence of near eye working distance in school, it is suggested that a so-called "straight holder" might be allowed in each class, to be used by the child who sits in the worst position. In that way it is thought that the other scholars might learn how to sit correctly.

* * * *

Special Schools.

SPECIAL Schools are now provided for the blind, the deaf, the mentally defective, and several other classes of children. Children are admitted to these places only after examination and certification by the medical officer. Attention is drawn to a number of cases, not necessarily in mentally defective children, where reading and writing beyond the most rudimentary attempts seems to be almost impossible of acquirement. These children have no actual disease of eye or ear, and are likely to be deemed imbecile if the true defect goes unrecognised. They are, in short, instances of word-blindness. The *Report* goes on to state that "to attempt to teach a word-blind child to read or write is quite hopeless," an extreme position scarcely justified in the light of some such cases published by Nettleship, Hinshelwood, and other writers. The ten special schools for the blind now contain an aggregate of 254 children. Treatment is obtained for such cases when improvement seems possible. The *Report* alludes somewhat guardedly to blindness from inherited syphilis, and in speaking of the deafness that now and then comes on in such children, says that "energetic hospital treatment has appeared to give relief in a few cases and is worth early trial in all these cases." It is interesting and contrary to the commonly accepted opinion to learn that the sense of touch appears to be very defective in some blind children, although how far this affects education it is impossible to say. The educated blind, so the *Report* runs, do not appear to possess a better "tactual" sense than normal people, but their trained mental perception of what is felt is more exact. However, it is plain that both touch and muscular sense require investigation and education in all defective children.

* * * *

Benefactions. UNDER the will of Miss Steel, the Royal Westminster Ophthalmic Hospital has received a legacy of £1,000. Under the will of Mr. Henry Evans, a banker, £10,000 has accrued to the Derbyshire Royal Infirmary for the equipment of a permanent ophthalmic department. We trust that other benefactors of the human race will follow the example thus set. There is plenty of room for extension of charitable ophthalmic aid in all parts of the United Kingdom. It is not a little remarkable the amount of really scientific work that has been forthcoming from the provinces in past years.

* * * *

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ORIGINAL COMMUNICATIONS.

NEW CONQUESTS OF OCULAR THERAPEUTICS.

Intravenous and subconjunctival injections of salicylate of soda; iodide of potassium and cataract: iodide of sodium and glaucoma. The ocular lymphagogues: dionine, chloride of sodium, alcohol, etc. Serum treatment of infectious corneal ulcers. Another new painless silver salt. Mode of application of the salts of silver. Stovaïne, a new anæsthetic. A few words on the analgesic properties of radium.

BY

DR. A. DARIER,

OF PARIS, FRANCE.

SLOWLY, but surely, the science of therapeutics is becoming more precise, more readily applied, and withal less offensive. The saying, that a new generation is necessary to appreciate new ideas, is to-day no longer applicable. The continuous progress made by all the sciences is daily furnishing us with new data which are transforming our therapeutic methods; and it is becoming really indispensable to establish, in all the universities, courses of study where the busy practitioner, whose daily round leaves him little leisure for the study of new methods of treatment, can be enabled to keep abreast of the latest discoveries, the application of which, although frequently very simple, yet requires specialised and up-to-date information. It is no longer possible to remain satisfied with what one has learnt at college.

It has taken no less than fifteen years to get the greater number of ophthalmologists to admit the simple idea of local ocular therapeutics by subconjunctival injections. The onus of this lies solely on the laboratory experimentalists, who, when they were unable to discover in the intra-ocular liquids the substances injected beneath the conjunctiva, went so far as to deny, in the most childish and unscientific manner, that any therapeutic reaction could result from the injection of mercury around the eyeball. Yet the clinical results which have been obtained are striking and irrefutable.

But there is one fact which is uniformly prominent in all the great discoveries in pathology and therapeutics, namely, that these have all been made by clinical observation, and the experimentalist very much later, and after meeting with many obstacles, has been able to confirm the facts established at the patient's bedside.

How many years were necessary in order to prove experimentally the infectious nature of pulmonary tuberculosis, so well established by Villemin? What a large number of discussions resulted from the precise observations made by Broca as to cerebral localisation; both opotherapeutics and revulsion, which have been attested by the experience of countless generations, are scarcely to be explained to-day, even in a slight degree, from the standpoint of physiology.

But, returning to ophthalmology, will the physiologists ever be able to give us an exact explanation of the mode of action of iridectomy in glaucoma, a purely clinical and empiric discovery which has made the name of Von Graefe famous? Let us therefore never deny a fact because we cannot explain it or because we do not understand it.

At the recent International Congress of Ophthalmology at Lucerne, nearly all the speakers agreed in declaring that local therapeutics by means of subconjunctival injections constituted a powerful means of dealing with a number of pathological conditions.

The devotion to this method of treatment—which is at once somewhat tardy and slightly excessive—is to be attributed largely to the discovery of acoine, a substance which renders subconjunctival injections almost painless. It is true that some still deny the analgesic power of acoine, because they have either not employed it in sufficiently large doses, or, by employing the sublimate which precipitates it, they have not been able to utilize its properties.

What remains for us at the present day to do is, not so much to find new substances to inject, as to establish precisely the indications for which this therapeutic method is calculated to render real service, so as to leave nothing to chance.

First of all, let us lay down the principle that the subconjunctival injection must not be looked upon as a universal panacea, as a mere common-place medication; not so, it is rather a method to be used exceptionally. It is a little surgical intervention which must be applied only with full knowledge, in cases where simpler means have proved insufficient, or else in cases where it is desired to obtain a rapid and intense action, and when there is good reason for fearing grave complications.

For my own part, during the fifteen years in which I have practised subconjunctival injections, I have gathered experience from which I now begin to discern what are the principal indications, taking into consideration the rather complex mode of action of the substances injected beneath the conjunctiva. It is to be admitted that:—

1. There is at first local irritation with subtraction of the aqueous humour through Schlemm's canal and the spaces of Fontana by anisotony of the liquids (A. Darier).

2. This irritation also provokes a hyperæmia of the ciliary body, and, consecutively, a new secretion of aqueous humour richer in albumen and in *Schutzkörper* (Wessely).

3. There is afterwards produced an isotonic equilibrium which permits the resorption of the substances injected, and the latter then act locally according to their special pharmacodynamic properties: anæsthetic, lymphagogic, antiseptic, mydriatic, specific, etc. (A. Darier).

This conception of the action of substances injected subconjunctively will remove local therapeutics from the narrow rut in which it has too often been confined, and this method of treatment is to-day extolled, not only by ophthalmologists, but also by the general body of practitioners, at the head of whom Professor Ch. Bouchard has boldly placed himself. The latter observer has now established what we had long foreseen, namely, that mercury or iodide of potassium injected at the level of specific lesions, and salicylate of soda injected into the periphery of a diseased articulation, act twenty times more energetically than by stomachic absorption. Santini, more recently (*Berlin, Klin. Ther. Woch.*, Sept. 6th, 1904), has obtained still better results in rheumatism (as may be readily understood) by injecting the salicylate into the articulation itself.

Ophthalmic surgeons have for some considerable time been using the salicylate for sub-conjunctival injections in rheumatic affections of the eyes. (Van Moll, *Klin. Monatsbl. f. Augen.*, 1891.).

Personally, I have made, relatively speaking, very few of these injections, because, first, it is difficult to affirm scientifically the "rheumatic" essence of an ocular lesion; secondly, we already possess a sufficiently large number of means for curing, in the majority of cases, rheumatic affections of the eye, without it being needful to have recourse to an intervention which is, in itself, rather painful.

In fact, the salicylate of soda, when carefully administered, gives very satisfactory results in such cases, and aspirine (acetyl-salicylic acid) also corroborates its analgesic action, while producing much less concomitant inconvenience.

But the more or less injurious action of the preparations of salicine on the stomach and nervous centres of certain persons, as buzzings in the ear, hallucinations, etc., has cast a certain amount of discredit on the stomachic absorption of these precious therapeutic agents.

Now there is one method of administering medicaments which has not yet received the attention it deserves, and that is, intra-venous injection, which is not painful like hypodermic injection, and which is infinitely more certain, more rapid, and, I would add, less dangerous.

For a long time now, following the example of M. Abadie and others, I have administered mercury almost always intravenously, and since the publication by Mendel (*Münchener Med. Woch.*, 9th August, 1904), I have been daily employing the salicylate in this manner with the greatest success. Here is the formula which I use :—

Salicylate of Soda, 2 gr.
Cafeine, 0·20 gr.
Sterilised water, 10 gr.

S.—*One to three c.c. injected every day in one of the veins of the fold of the elbow.*

The technique of intra-venous injections has now become classic, and those who are not yet familiar with it will find a detailed description in my *Leçons de Thérapeutique Oculaire*, a third edition of which will be published shortly.

By this means, I have succeeded, in many instances, in bringing about a rapid improvement even with the earliest injections, whilst salicylate and aspirine, introduced through the stomach, produced a betterment of short duration. These were cases of iritis, grave iridocyclitis, keratitis, and scleritis, which had proved rebellious to many remedies. We are, therefore, fairly well-equipped in dealing with rheumatic affections of the eye in their numerous manifestations. Nevertheless, the subconjunctival injections of salicylate of soda will find the same general indications as we have already set forth; they may be applied in all cases where other medicaments have not succeeded, and, also, in every instance where it is necessary to secure a very rapid amelioration for some reason which will justify energetic treatment. Not that a subconjunctival injection of a 1 per cent. solution of salicylate of soda involves very much pain or irritation, but everyone knows how violent and obstinate the reactions can sometimes be in eyes which are affected by these rheumatic disorders, since the latter recur with surprising readiness.

Dr. Foucher, of Montreal, in No. 5 of *L'ophtalmologie Provinciale*, mentions several cases of rheumatic iritis which had been considerably improved by one or two subconjunctival injections of 1 per cent. solution of salicylate of soda; and Roy, in the *Annales d'Oculistique*, publishes five other cases of iritis which had been cured by temporal and subconjunctival injections of salicylate of lithium. But I must repeat that this method of administering the salicylate should not be resorted to in the first instance, but be held in reserve as an ultimate and most valuable resource.

In one extremely interesting case I was able to obtain a complete cure by two subconjunctival injections of salicylate of soda. The case to which I refer was one of macular keratitis interstitialis of the right eye, which was due to rheumatism, and which was accompanied by ciliary pains and photophobia: a rapid improvement set in after giving 3 grammes of aspirine *per diem* and using hot compresses, and at the end of two months the cure was complete. In this case the effects of the therapeutic treatment confirmed the rather doubtful diagnosis. But six months later the left eye was affected in the same manner, a more marked corneal infiltration being present, accompanied by more acute pain and an obvious attack of iritis. The aspirine lessened the pain, but only for a few days. As the stomach could scarcely bear the salicylate of soda, I applied the latter by means of intra-venous injections, and, at the very outset, with marked success. All pain had disappeared the evening after the first injection, and the cornea had cleared up in a remarkable manner.

After twelve of these injections of 0.50 to 0.60 of salicylate (one every two or three days), the condition of the patient remained stationary, and there was still slight and occasional pain. I then gave, at intervals of 4 to 5 days, two subconjunctival injections of the following solution:

Salicylate of soda, 0.10
Hydrochl. of cocaine, 0.20
Distilled water, 20 gr. S.—*A syringeful at each operation.*

The effect was remarkable, and, from that moment, the patient considered herself cured, and discontinued all further treatment. The cornea cleared very rapidly, and the vision again became normal.

Would the same result have been obtained if the subconjunctival injections had been given at the commencement of the treatment? Possibly, but in this case it would have been necessary to supplement this local treatment by general medical treatment, which might have led to serious relapses, and with the latter one would not have the same chance of success in using the subconjunctival injections.

In my opinion, the best course is to use the simplest means in the first instance, and then to look for guidance to the evolution of the morbid process, and the therapeutic effects which have been obtained.

There are, nevertheless, cases where it is advisable to employ strong remedies at the very beginning, and to give subconjunctival injections at the outset, either when dealing with a patient whose stay is limited, or with a case which has been treated unsuccessfully by other means. One will then have the pleasure of being able to give some hope of a rapid improvement, if not of a definite cure, and the latter can be confirmed and rendered more certain by intra-venous injections of salicylate of soda.

(*To be concluded.*)

A FEW EXPEDIENTS IN CATARACT EXTRACTION.

Fixation of the Conjunctival Flap; Persistent Antisepsis after Extraction; Heat and Cold after Discission; Massage as an aid to local Anæsthesia; Miscellaneous Notes.

BY

Ernest E. Maddox,
OF BOURNEMOUTH.

FIXATION OF THE CONJUNCTIVAL FLAP.

Through the contributions of many, the operation for cataract has reached a state of perfection, which, if only all eyes responded gratefully to it, would leave nothing to be desired.

But thoroughly satisfactory as are the great majority of results in this country, the small percentage of exceptions, from which no operator is immune, not only cause disappointment to the few concerned, but often throw a needless shadow over the minds of others, sometimes enough even to deter suitable cases from receiving the benefits of extraction.

The two principal causes of failure (granted skilful performance of the operation) are (1) deficient vitality or "resisting power" of the tissues; (2) the impossibility of effecting absolute disinfection of the conjunctival sac, particularly in the presence of any affection of the tear passages. The two simple procedures which I am about to narrate meet, in partial measure, both these difficulties. The first consists in a conjunctival suture, and the second in a persistently antiseptic dressing applied over the tear passages.

It may be of interest to relate by what steps I was led to adopt the first of these.

The well-known difference in healing between iridectomy and cataract incisions (that is, the almost uniformly rapid healing of an iridectomy incision, as compared with the slower and occasionally delayed union of a cataract incision) led me some years ago to wish that some plan could be devised for fixing the cataract incision in its centre, so as to convert it practically into two iridectomy incisions and minimise the disadvantage of the long breach of continuity in the outer coat of the eye, which makes it offer less resistance to distortions and displacements during the movements of the eyeball, besides so widely depriving the flap of its nutritive supply.

One day, after performing a simple extraction in hospital, the iris remained wrinkled above and the pupil egg-shaped, in spite of every effort to coax it into shape.

Instead of performing an iridectomy, which, as the patient had to be taken up a flight of stairs to another storey, I should have done in the ordinary course, I thought I would try an experiment to save the pupil if possible. Taking two wax matches and striking one, I rotated the butt end of the other sufficiently near the flame to melt and to sterilize the wax thoroughly. This converted the match into a kind of soft brush laden with melted wax, which I then brushed rapidly across the conjunctival flap and closed the eyelid gently over it. At the first dressing the pupil was found perfectly circular, and the healing proceeded as rapidly as usual.

Unfortunately on all other occasions that I have tried the same thing the wax adhered too slightly to possess any value, and although I have spent much labour in trying to find a substance that would set instantly and yet adhere to a moist surface, the search has not yet been rewarded.

It had the advantage, however, of putting me, for the meanwhile, on the line of using a conjunctival suture instead, and I have inserted them with satisfaction in a few cases.

Needless to say, the suture should be rendered absolutely aseptic, and not be allowed to touch the eyelashes, or the face. To do this is quite easy if the tail end of the suture be held up by the assistant with aseptic forceps.

To enable the suture to be inserted with the maximum of speed and delicacy, and without touching the eyelashes or the speculum, I have had some very small needles made, about half the size of the smallest ophthalmic needles figured in Messrs. Weiss' catalogue.

It is evident that if done at all, every possible facility should be afforded, so as to prolong the operation as little as possible, and I have designed a special needle-holder for the purpose.

I find that, so long ago as 1868, suture of the *cornea* was proposed by Williams, of Boston, and many have since employed it in various ways, but this procedure is adapted only for extremely unusual cases, and is not without its dangers from the presence of a foreign body so close to the anterior chamber as to furnish an inviting path for micro-organisms.

My present proposal of a *conjunctival* suture, a few millimetres from the cornea, does not mutilate the flap or endanger the eye in any way.

In a few patients it is not wise to attempt any prolongation of the operation, but my rule now is to put in a conjunctival suture whenever it can be safely and conveniently done.

A conjunctival suture appears to me to present the following advantages :—

(1) *Speedier union.*—As is well-known, union by first intention is favoured in every part of the body by restful co-aptation of the lips of an incision. With the eye, this consideration has peculiar force, the eyeball being a restless organ in constant motion, as the reader can verify by placing his finger against the closed eyelids. As a further proof of these movements I have more than once seen, as others have also, iodoform when sprinkled on the incision, work its way into the anterior chamber. It is no wonder therefore if other things less desirable than iodoform are sometimes worked in. We cannot, therefore, take the apparent quietude of the dressings after an operation for cataract as disproving the rotations of the globe going on beneath them. It is true that a conjunctival flap, even without a suture, becomes glued by exudation within a few hours. But in contrast with this, the conjunctival suture now proposed affords a central point of strong immobility from the very first, and the value of a few hours may be very great when the vitality of the flap is feeble.

(2) *Protection from infection.*—The excellent results obtained, almost without exception, by suturing the conjunctiva over disinfected wounds of the sclera, afford frequent illustration of

the safety of sub-conjunctival healing. It was indeed this consideration which confirmed me in the attempt to give cataract incisions a similar benefit.

(3) *Greater security from accident.*—In the event of any sickness, sneezing, or coughing, the danger of damage is greatly reduced. Chloroform can be given on the rare occasions that it is called for with far more confidence. Bronchitic complications need be dreaded less, while accidental blows and disturbances are not so likely to do harm.

(4) *Smaller prolapses.*—Should prolapse of the iris occur after simple extraction, it is an immense advantage to know that it can take place only subconjunctivally, and its progress in the direction of the suture be limited thereby.

(5) *Greater freedom for the patient.*—The irksome character of the present after-treatment of cataract can be greatly relaxed, if a conjunctival suture be employed. The patient can be granted more freedom with equal safety, and in the case of stout, elderly people, relief from prolonged recumbency in bed is a great boon.

(6) *Fewer rejected cases.*—It is not unreasonable to believe that some patients to whom operation has been judiciously declined hitherto on account of chronic bronchitis, failing vitality, winter cough, or other contra-indication, could be tackled more boldly by the employment of two or three conjunctival sutures.

(7) *Open dressing facilitated.*—The advantages of open dressing are well known. Under its *régime,* nature's own cleansing arrangements for the conjunctival sac are not interfered with, and the flow of tears across the eye from the openings of the lacrymal ducts to the inner canthus, guided by involuntary action of the muscles provided for the purpose, clears the neighbourhood of the wound from particles of mucus and other undesirable elements that might otherwise tarry too long. Any impediment to these natural and harmless movements of the lids must be prejudicial. Hitherto the chief disadvantage of open treatment has been the possibility of the upper lid rising so high, when the eye looks down, as to engage in the incision or to disarrange the flap, but if the flap be securely sutured this objection ceases. The ideal dressing after suture is, I believe, to leave both eyes entirely untouched, yet thoroughly protected by a wire gauze mask, covered with very fine black or green muslin, over the operated eye, and for the first day or two over the other eye also. The chief disadvantage of allowing the sound eye to perform acts of vision from the first, is that, while taking meals, the patient is certain to look strongly down. The traction of the inferior rectus on the eye that has been

operated on then tends to open the incision at some part of it where union may be feeble, and thus to delay healing. Should, then, the sound eye be left uncovered from the first, strict instructions are necessary that meals should be given with the eyes closed.

Having set forth the advantages of, now let us consider the possible objections to conjunctival sutures.

(1) *Their aid is small*, and the flap is not fixed so firmly as by a corneal suture. This is true, but they are safe, and in so important an operation, even the smallest aid is not to be despised.

(2) *The danger of sepsis.*—There is none if the suture be properly placed.

(3) *The operation is prolonged.*—This objection must be duly respected where restless eyelids betoken danger, but in the majority the prolongation is so slight as scarcely to be taken into account, and the objection only shows the advantage of making every effort to improve the technique of insertion so as to secure the utmost despatch.

For these little extra pains the operator is amply rewarded by the feeling of security evoked by the sight of the little black midge, a few millimetres from the cornea, securely holding its own, and guarding the flap from any displacement by the edge of the upper lid.

(4) *Astigmatic effect.*—If put in carelessly, so as to tie up too much conjunctiva, the corneal flap may be unduly dragged on so as to create an increase of the astigmatism. But this deviation from the correct procedure is not in the least necessary.

In each case the *pros* and *cons* need weighing. It is more than likely that conjunctival sutures have been used by others, without my knowledge, but not having met with a suggestion of them in any text-book, they evidently form no recognised part of present practice, and I think it may be useful to have thus expressed my views as to their value in suitable cases.

PERSISTENT ANTISEPSIS AFTER EXTRACTION.

When the tear passages are healthy, although the conjunctival sac itself contains numerous micro-organisms, they are not generally of a very formidable character, and are doubtless in large measure flushed away by the mild antiseptic lotions which are employed before and during operation. It is, as we all know, not from the conjunctival sac so much as from an imperfectly-drained lacrymal sac that the chief danger springs, the more so when the sac has for a long time been distended by a purulent secretion. Under these circumstances, however carefully the lacrymal sac may be washed out, the moist warmth of the subsequent dressing only favours the multiplication of any cocci that may yet lurk in its walls. Having occasion to extract a cataract from a case of this kind, after careful treatment of the condition by free opening of the sac, the use of a lead style, and frequent syringing, it occurred to me to adopt a simple expedient for the maintenance of a gentle but continuous antisepsis. After closing the lids at the conclusion of the operation, the hollow between the eye and the root of the nose was filled up by a small teaspoonful of finely powdered boric acid. The usual dressings were then laid over this. By next morning the tears had melted a greater part of it away, showing that the lacrymal sac must have been perpetually bathed in the solution. It is not improbable also that the flow of tears (which in themselves are supposed to be bactericidal) was favoured by the powder, by osmosis, in the same way that a boric acid suppository excites the flow of liquid in the gut. The *continuous* application of a *mild* antiseptic is much more suitable for the eye than the *short* application of any *strong* and therefore irritating chemical. In other cases I have used the common surgical mixture of iodoform with boric acid and have so far always been encouraged by the result. Although the moistened powder tends to enter into a crystalline state, no harm seems to result therefrom, but I hope to find some combination free from this defect.

There is a tendency to under-rate the value of boric acid as an antiseptic, because larger vegetable fungi flourish in its solutions, and its slaying power over microbes is so small, and truly this does point to the inefficiency of its merely temporary application. But its *retarding power* is not to be despised, since it is stated that meat may be kept for years in its solution without putrefaction. Neither can we reasonably suppose it would be used so largely to preserve milk if it were devoid of preserving power.

After careful flushing before an operation, probably all that we need is a retarding influence for a few days until the wound has sufficiently healed. There are some patients in whom a knock, or any small injury, will cause a whitlow or a suppuration. In a poor old man thus situated I extracted both cataracts, without any ill consequences, using the procedure described. There is, too, as far as my limited experience of this goes, some truth in the observation, first made, I believe, by Von Graefe, that when the skin on the back of the hand can be picked up into wrinkles which *remain*, extraction is apt to be followed by suppuration. An eye which I lost in hospital by suppuration after extraction, was one which exhibited this phenomenon in high degree beforehand. Perhaps the eye might have been saved by the boric powder treatment, which, however, I had not then thought of. It will be seen that I do not recommend it for all cases, but for those in which it appears to be specially indicated.

I sometimes place a small circle of the finest bishop's lawn over the inner canthus before adding the boric powder, but am not sure that this, though it certainly protects the eye from an occasional gritty feeling, is so efficacious, since it does not excite the flow of tears quite so much, and it is really rather advantageous for a little powder to work its way between the lids close to the lacrymal passages.

Some of the numerous antiseptic powders being introduced so diligently may prove better than boric acid, but the principle is all I speak of now.

THE USE OF HEAT AND COLD AFTER DISCISSION FOR CONGENITAL CATARACTS.

Considerable diversity of practice seems to exist with respect to the use of hot and cold applications after discission for cataract, and for the operative treatment of myopia; some using ice only, and that for a needlessly long term; others using nothing at all; and few, if any, using heat.

I have tried to settle for my own guidance the indications for heat and cold by the very close observation and frequent visiting of cases, and although far from claiming to have reached finality, have formed definite conclusions in my own mind. These are that ice is valuable in every case from the second to the eighth hour or thereabouts after the operation, when it wonderfully aids the atropine in dilating the pupil. After this its benefit is more doubtful. In some cases where the lens rapidly swells, heat may become indicated as soon as the tenth hour, but more often not until the morning after the operation. As soon as indicated it is just as grateful to the patient as ice was before. It may be tersely put thus: *A small pupil shortly after operating cries for ice. A dilated pupil with swelling lens, and especially if with rising tension, cries for heat.* If the tension rise on the third or fourth day or later, heat is simply invaluable, and should be applied every two hours for from ten to twenty minutes either dry or in the form of hot fomentations applied with the face up instead of down. The knowledge of its power divests nearly every case from anxiety. It seems to hasten the absorption of the extruding lens substance and accelerate the excretory function at the filtration angle just as it stimulates lymphatic activity elsewhere. The best way of applying heat, if a properly-shaped little sponge be not available, is to place a piece of bread about the size of an egg within a handkerchief, and each time after soaking it afresh, I advise that it be pressed against the back of a dessert spoon, kept in the water, which indents a hollow to fit the eye.

The effect of posture, to which I called attention* many years ago, still seems to me important. If the face be up instead of down the engorged veins can more freely empty themselves. The fewer the number of operations performed for lamellar cataract or high myopia the better *cæteris paribus* will the result be. The best cases are those in which a single needling effects the entire solution of the lens; and the knowledge of what can be done by cold and heat in their appropriate seasons removes the fear which dictates only a slight needling on the first occasion. Such, at least, is the opinion I would venture, without for a moment placing it on a par with that of more veteran observers should theirs differ. With rising tension, dry heat (whether electric or by a Japanese muff-warmer held against, or even tied over, the eye) forms a valuable auxiliary after each fomenting, but should not replace the fomenting altogether, for the gentle disturbance of the eye, forming a kind of hot massage, plays, I believe, an important part in the process of absorption.

MASSAGE AS AN AID TO LOCAL ANÆSTHESIA.

It is of some advantage to know that the penetration of eye drops may be assisted by massage through the eyelids. After asking the patient to look down, and dropping the cocaine solution on the site of operation, massage through the upper lid works it deeply in and anæsthetises the iris. It is more particularly in the presence of high tension that I have found this little expedient useful, and some cases of glaucoma that would otherwise have required chloroform have been rendered operable under cocaine by this simple measure.

MISCELLANEOUS NOTES.

(1) The *speculum* which I prefer has a guard for the lashes of the upper eyelid only. A guard for the lower lashes is unnecessary, since they point downwards, and it lessens the extent of the field for the conjunctival forceps. Two specula, however, are necessary with this arrangement, one for each eye.

(2) For a *sterilizer*, I like one which carries everything required exposed to view on a single tray, including the pledgets and the eye droppers.

An excellent eye dropper has been designed by my assistant, Dr. Cooper, which, among other advantages, can be laid in a sterilizer, as it is, nipple and all, without danger of its contents escaping or being diluted, and he prefers a sterilizer of abundant area. If a large wooden handle be attached to the lid of the sterilizer, it can be inverted and the tray placed in it, should it be wished, for the whole to be held in a nurse's hand.*

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* *Edinburgh Hospital Reports*, 1894, p. 636.

(3) In the uncommon, but not very rare, event of *ciliary neuralgia*, or cyclitis, after extraction, it is a great convenience to be able to obtain the comforting and even therapeutic effect of dry heat in a manner which shall cause no mechanical disturbance of, or pressure on, the eye.

The eye warmer which I showed to the Ophthalmological Society in 1903,† has been improved so as to be even more light and flexible. Its incorporation in the usual cataract dressing now makes no difference to the eye.

For a long time my great difficulty lay in the heavy and bulky character of even the smallest electric connections obtainable in the market; but on accidentally picking up a child's necklace the problem was solved. My "necklace connection" now allows conducting cords to be attached and detached with the greatest ease without disarranging the dressing, while at the same time they secure good contact for the flow of current.

(4) It has occurred to me as possible that in very old people with sub-normal temperature and low vitality, gentle continuous warmth by some such means as this might favour healing, but it is a point that needs working out.

(5) The value of atropine is too well-known to need any comment, and after simple extraction I use strong pilocarpine, after Snellen. Though *dionine* is unsuitable for instillation during the first few days on account of the sneezing which it is apt to excite, I often instil it regularly thereafter, with the idea that it hastens absorption of lenticular remains.

(6) In *eczema* of the head and face, extraction is rather dangerous, as I have too good reason to know, after a case of suppuration under these conditions many years ago. Having occasion to perform an extraction in a case of this kind more recently with gouty conjunctivitis, and eczema of the face and head, I left the eyes open, though covered by a mask, and after a gentle instillation of warmed cocaine, thoroughly brushed the conjunctiva of the lower eyelid with nitrate of silver solution daily from the first, applying resinol ointment to the outside of the lids. This case did perfectly well.

(7) In very old people, it is sometimes of advantage to give *stimulants* or panopepton, even the first night after the operation, to keep up the vitality of the flap.

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*Our sterilizer was made by Messrs. Down Bros., London, S.E.

†*Trans. Ophthalmological Society*, Vol XXIII (1903), p.346.

The above may seem but small and insignificant details, but every surgeon knows that attention to a number of little points sometimes does better service in the end than some heroic measure, and this remark must constitute my apology for such a homely little essay.

CLINICAL, PATHOLOGICAL, AND THERAPEUTICAL MEMORANDA.

STOVAÏNE: THE NEW LOCAL ANÆSTHETIC.

BY
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OF LONDON.

It might perhaps be thought that with cocaine, holocaine, tropacocaine, nirvanine, yohimbine, eucaine B, and eucaine lactate our list of local anæsthetics was complete. Nothing could well be farther from the truth. Every one of the agents mentioned has inherent drawbacks. For example, cocaine has an unpleasant way of causing the anterior epithelium of the cornea to be shed and of paralysing accommodation, while its marked toxic properties make the injection of more than a minute quantity a matter of some danger. Holocaine, again, although admirable when simply dropped into the conjunctival sac for the purpose of inducing local anæsthesia, acts like an alkaloidal poison when injected beneath the skin of the eyelids or other parts. In fact, we still need a local anæsthetic that shall at once be non-irritating, non-toxic, antiseptic, efficient, and moderate in price. The ideal agent, moreover, will possess not only anæsthetic but analgesic powers as well. There can be little doubt that the untiring researches of the modern pharmacological chemist will some day place in our hands precisely what we require. In the meanwhile careful clinical and physiological trials should be made of any agent claiming to possess the primary anæsthetic properties that have brought cocaine a world-wide renown.

It may be well to remind those who look askance at such new remedies of Francis Bacon's words, "that a froward retention of custome is as turbulent a thing as an innovation: and they that reverence too much old times are but a scorne to the new." (*Essayes or Counsels civill and morall.*)

Stovaïne, the latest local anæsthetic, appears to satisfy some of the above-mentioned desiderata. This product, discovered by Fourneau[1], is the hydrochloride of amyleine B. It occurs in small white flakes, is extremely soluble in water, and its chemical reactions are almost identical with those of cocaine. Its solution is not altered by boiling, since decomposition does not commence until a temperature of 120° C. is reached. Its physiological properties have been studied by Billon[2], Gérard[3], Pouchet[4], and others. Launois[5] and Billon conclude from their experiments on guinea-pigs that the toxicity of cocaine being 1 that of stovaïne is represented by ½ or ⅓. In general surgery the new agent has been employed by Chaput[6], who has become its ardent advocate. Professor De Lapersonne[7], of Paris, has utilised the pronounced anæsthetic powers of stovaïne in eye work, and has shown by experiments on rabbits that stovaïne is much less toxic than cocaine, to which it is little inferior in anæsthetic power. He has performed several operations, as squint, iridectomy, and cataract extraction, under its influence. For subconjunctival injection he considers it to be superior to cocaine. De Lapersonne suggests a mixture of two parts of stovaïne and one part of cocaine as a practical working anæsthetic for use in eye work.

The experiments I have made personally with a four per cent. aqueous solution of stovaïne* may be briefly described as under:

It was found that some little watering and smarting followed the dropping of the liquid into the conjunctival sac. The smarting, as a rule, was not more than that which generally accompanies the use of a 2 per cent. solution of cocaine hydrochloride. In most cases it could be avoided by getting the patient to look upward for a few moments after the instillation. Within five minutes or so of the application, the conjunctiva and the cornea could be touched with a blunt instrument, or the former could be picked up with fixation forceps, without causing the patient pain. The eyeball showed no vascularity ; and, indeed, when redness was present, the stovaïne in some instances appeared to lessen the congestion. This action, however, was not always present, for in several cases of irido-cyclitis, with a good deal of vascularity, the remedy failed to make any marked impression upon the redness of the eyeball. After two or three applications at intervals of a few minutes, sufficient anæsthesia was obtained to remove foreign bodies from the cornea and eyelids, to cauterise corneal ulcers, and to undertake other small operations upon the surface of the eyeball. In one peculiar case, where cocaine used before making a subconjunctival injection appeared to cause faintness and epileptiform jerkings, stovaïne rendered me signal service. I have further performed discission twice, and iridectomy once, under the influence of stovaïne. The anæsthesia induced in this way generally lasts for about half an hour. As regards relief from pain, as in some cases of irido-cyclitis, stovaïne proved itself to be superior to cocaine, without at the same time acting as a true analgesic, such as dionine or acoine. In unilateral cases it was noticed that a slight dilatation of the pupil followed the use of stovaïne, a point better appreciated in a dim than in a strong light. The semi-dilated pupil retained its reaction to light and to convergence; accommodation was not affected. Beyond this slight mydriasis, the new agent appeared to me to produce no effect upon the eye other than that of local anæsthesia. It is important to note that De Lapersonne found stovaïne produce some slight desquamation of the anterior corneal epithelium. Personally, I have seen nothing of the kind occur in my somewhat numerous experiments, even when patients were encouraged to keep their eyes open after stovaïne had been used.

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*Obtained from Mr. W. Martindale, 10, New Cavendish Street, London, W.

With regard to the injection of stovaïne, I have on several occasions removed tarsal cysts without pain, by first injecting the remedy into the cyst and its surroundings. The same remark applies also to excision of the superior *cul-de-sac* from patients suffering from trachoma. So far, at all events, I have met with no faintness or any of the other symptoms of shock that are not altogether unknown after cocaine has been employed in a similar way.

My investigations lead me to conclude, then, that in stovaïne we have a trustworthy and relatively non-toxic local anæsthetic, and one capable of ready sterilisation by boiling, and as such I commend the latest product of synthetic chemistry to the serious attention of ophthalmic surgeons.

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5. Launois.—*Comptes rendus de l'Académie des Sciences*, T. CXXXVIII, p. 1360.
6. Chaput.—*Comptes rendus de la Société de Biologie*, 7 mai, 1904.
7. De Lapersoune.—*Presse Médicale*, 13 avril, 1904, and *Recueil d'ophtalmologie*, août, 1904. For abstract see p. 484 of the present number of THE OPHTHALMOSCOPE.

A SUGGESTION FOR THE RAPID REMOVAL OF FINE INGROWING EYELASHES.

BY

LINDSAY JOHNSON, M.D., F.R.C.S.

OF LONDON.

It is common knowledge that, owing to the gradual atrophy of the hair follicles in chronically inflamed lids, the ingrowing lashes become finer and finer until they are barely visible to the naked eye. Nevertheless, they continue to be a source of great discomfort to the patient, and the removal of these fine hairs is a matter of great difficulty, even with the best epilation forceps, for the reason that the hairs slip out from between the forceps blades.

Now, I find that if a minute particle (say 0.2 to 0.5 milligramme) of cobbler's wax (of which a quantity can be obtained from any shoemaker for a penny) be placed between the opposed blades, and the latter gently heated for a second, the wax will spread over the blades, and allow of a firm grip being obtained, in consequence of the adhesion of the hairs to the wax. This wax can always be melted and then wiped off and a fresh layer put on in a moment.

Resin has been suggested as an improvement to the cobbler's wax, but up to the present I have only tried the wax. The latter seems to answer well enough, but the former might be equally efficient.

OPHTHALMIC SURGEONS IN CONGRESS.

The tenth International Congress of Ophthalmology, as most of our readers know, met at Lucerne on September 13th, 1904, with Professor Marc Dufour, of Lausanne, as President. It was well attended, especially by Germans and by Swiss. So far as Great Britain was concerned, of the forty-three existing members, twenty-one were present. America was represented in somewhat greater, and France in somewhat poorer, proportions than Great Britain.

As is usual on these occasions, scientific work and social functions jostled one another at every turn. The Congress was opened by a reception at the Hôtel National by the town authorities, where the members (or some of them) listened to an address by Dr. Hermann Heller, President of the town of Lucerne. A dialogue, entitled "Post Tenebras Lux" was played, and the local *Liedertafel* provided choruses. The *soirée* was crowded, and the rooms soon became intolerably hot, but otherwise the entertainment was a great success. On the following morning the congress was formally opened by a former member of the medical profession, Dr. Deucher, ex-President of the Swiss Confederation, who welcomed the guests in the name of the Republic. This was followed by an address from the President, Professor Dufour. The business part of the proceedings then commenced by a discussion, based upon the printed reports of Doctors Sulzer, Axenfeld, and Würdemann, of the economic value to be attached to a lost or damaged eye.* The chair was occupied by Professor

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*A full account of these reports will be published in an early number of THE OPHTHALMOSCOPE.

Kuhnt, of Königsberg. As might be expected, the discussion led to no definite result, since, as Professor Fuchs pointed out, the congress had no power to draft a table of damages, inasmuch as the law on the subject was everywhere different. The question was accordingly postponed until the next congress, five years hence—simply a polite way of relegating it to the Ides of March. Meetings were held in a large hall—the theatre of the Kursaal—the acoustic properties and the ventilation of which left a good deal to be desired. Blinds were pulled down, windows were hermetically sealed, and the hall was lighted artificially. The speakers stood on the platform, at the back and sides of which some incongruous scenery had been left in place.

On the next day, the 15th September, the chair was taken by Professor de Lapersonne, of Paris, and the earlier part of the morning was devoted to the discussion of the proposals of the French Ophthalmological Society as to "the notation of the acuteness of sight." The result again was profitless, stale, and jejune, for the entire question was in the end referred to an international committee, the British and American members of which were W. H. H. Jessop, Priestley Smith, G. A. Berry, and H. V. Würdemann. The meeting then passed on to discuss the various scientific communications presented to the congress, which (very properly) had been printed and circulated amongst the members beforehand. It was, however, a pity that this wise step was marred by evidences of hasty and imperfect organisation. For example, no daily programme was published, and nobody could possibly tell what was going on or who was speaking unless he entered the hall to see for himself. The official banquet of the congress, to which some 300 members and their friends sat down, was held at the somewhat uncomfortable hour of 1.30 p.m. on this day.

On Friday, the 16th, the chair was taken by Dr. Argyll Robertson, who in that capacity gave a rare exhibition of his business-like qualities. The discussion of the scientific communications was resumed, and good progress made with the work.

The last day was opened by a meeting for discussion of the business of the congress, Professor C. Reymond, of Turin, occupying the chair. Dr. Lucien Howe, of Buffalo, proposed that the next congress should be held in three instead of five years. The proposition was negatived. It is, indeed, a question whether, save from the personal and social point of view, these congresses have not outlived their usefulness. Whatever their justification in bygone years, the rapid latter-day diffusion of knowledge by means of the press seems to render them almost if not quite unnecessary. A letter signed by Drs. Knapp and De Schweinitz and eight other members was then read, inviting the congress to meet in the United

States. This, when put to the vote was, we regret to say, lost. An invitation to St. Petersburg met with a similar fate. Finally, it was decided by an overwhelming majority to hold the next Meeting (1909) at Naples, Italy.

The detestable weather caused the official excursion around the Lake of Lucerne, arranged for the 14th, to be postponed until the 16th of September. On the following day, the last one of the congress, an excursion was undertaken by many of the members to Bürgenstock.

There were two museums attached to the congress, namely, the scientific and the commercial, some details of which we hope to publish in the December number of THE OPHTHALMOSCOPE. Our work in that direction has not been lightened by the curious omission on the part of the executive of the congress to publish a catalogue of exhibits.

CURRENT LITERATURE.

NOTE.—Communications of which the titles only are given either contain nothing new or else do not lend themselves to abstract.

I.—PATHOLOGY.

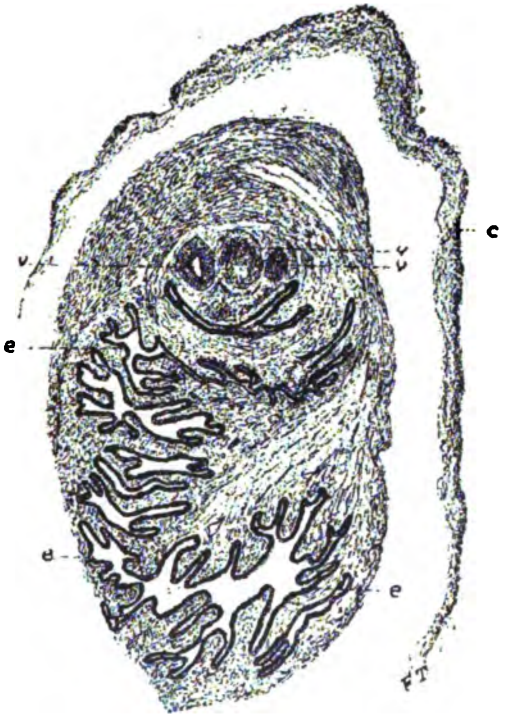
Wagner, Richard.—Upon the knowledge of the anatomical changes in secondary syphilitic affections of the Eye. (Zur Kenntnis der anatomischen Veränderungen bei sekundärluetischer Optikuserkrankung.) *Klin. Monatsbl. f. Augenheilkunde*, 1903, Bd. II, p. 1.

On suspicion of an intra-ocular growth, enucleation was performed on a man, 35 years of age, who had suffered for eight to ten years from recurring iritis. The pathological examination showed morbid growth of the endothelium of the vessels and infiltration of the optic nerve. **Wagner** looks upon this as the outcome of primary disease of the optic nerve in the secondary stage of syphilis, because typical *plaques* on the tonsils were present at the same time. In view of the clinical course of the disease, the reviewer cannot consider Wagner's opinion entirely justified, especially as other parts of the eye presented serious inflammatory changes.

A. BIRCH-HIRSCHFELD.

Terrien, F.—Sub-conjunctival cysticercus. (Cysticerque sous-conjonctival.) *Archives d'ophtalmologie*, juillet, 1904, p. 431.

Terrien's patient, a girl of 15 years, presented a tumour of the ocular conjunctiva, which had been noticed for three weeks. The semi-transparent vesicle, of the size of a large kidney-bean, lay beneath the conjunctiva near the upper extremity of the vertical meridian of the eyeball, an unusual position for a growth of this kind. It was adherent to the sclera, and consequently could not be made to shift its position. Towards the middle of the growth, immediately beneath the mucous membrane, was a whitish-yellow, opaque disc, the size of a small pea. The growth was removed entire, the overlying conjunctiva having been first reflected. The subjacent subconjunctival tissue was found to be markedly thickened, as a result of the irritation set up by the parasite. The cyst was fixed in Flemming's fluid, embedded in paraffin, and cut for the microscope. As may be seen from the appended figure, the parasite was enclosed in a capsule (*c*), slightly folded, and separated from the contents by an interval filled with serum. The capsule was formed of connective tissue with numerous nucleated and lymphoid cells and capillaries, but no giant-cells could be found. The mass of the cysticercus was essentially made up of the cephalic end of the animal with its suckers, of which three, cut in various directions, are included in the section (*v. v. v.*). The rest of the animal



was constituted by its ectodermic envelope, forming numerous folds and covered with an almost homogeneous layer of ectoplasm (*e*). Two hooklets were found in one of the specimens and their characters led to the parasite being identified as the cysticercus cellulosæ, *i.e.*, the larva of the tænia solium.

S. S.

Yamaguchi, H.—A contribution to the Pathological Anatomy of Albuminurtic Retino-Choroiditis. (Ein Beitrag zur pathologischen Anatomie der Retino-Choroiditis Albuminurica.) *Zeitsch. für Augenh.*, Mai, 1904.

Yamaguchi describes the microscopical appearances of two eyeballs which came from a girl, *æt.* 18 years, who died of nephritis. The principal changes described are œdematous swelling of the various retinal layers and a partial destruction of some of them, particularly of the ganglion-cell and rod and cone layers. In addition, he describes a formation of new connective tissue surrounding the disc. This layer is lamellated, of considerable thickness, and contains, in addition, spindle-shaped nuclei and elastic fibres. The optic nerve is highly atrophic. The choroid is also much altered. The blood vessels in both layers are atrophic and frequently present the picture of an endarteritis obliterans. The points, in which this picture varies from the usual ones, are the slight change in the retinal vessels compared with the choroidal ones, the few hæmorrhages, the absence of fatty degeneration, and the peculiar new formation of connective tissue about the disc. A. LEVY.

Sourdille, G.—Adult neuroglial tumours of the optic nerve and retina. (Les tumeurs névrogliques adultes du nerf optique et de la rétine.) *Archives d'ophtalmologie*, février, 1904.

Sourdille describes the pathology of two neuroglial tumours developed, one at the expense of the optic nerve and the other at the expense of the retina. The first, removed from a woman aged 22 years, extended from the papilla to the optic foramen, and resembled in shape a small pear. Essentially it consisted of fine fibrils which presented the physical characters and staining reactions of neuroglial fibrils, and which were connected by abundant albuminous cement-substance. Oval or rounded nuclei, sometimes surrounded by cytoplasm, lay between the fibrils and at their points of intersection. The tumour contained numerous cavities, filled with albuminous material and glial cells; many vessels were also present. Sourdille therefore regards it as a glioma, although he points out the difference between the present tumour and ordinary retinal gliomata, and the resemblance between it and gliomata of the central nervous system. The second case, one of glioma of the retina, occurred in a lad of six years. The neoplasm, which originated from the external surface of the retina, was made up of a dense reticulum of fine fibres, in the meshes of which lay large rounded cells, with small central nuclei. The importance of employing such specific stains as those of Van Gieson and Weigert is pointed out. Sourdille, in brief, draws a distinction between adult gliomata, on the one hand, and embryonic gliomata, on the other, and he further believes that many tumours of the optic nerve, described under different names, will eventually be found to belong to the former group.

Herzog, H.—Pathology of the Cilia. (Pathologie der Cilien.) *Zeitschr. für Augenh.*, März and April, and *Ergänzungschrift*, 1904.

In this long and carefully worked-out paper **Herzog** describes the various pathological conditions affecting the hairs and hair follicles of the lids and eyebrows. He reviews the literature of the subject, and adduces a large number of investigations of his own. On account of its length and the variety of conditions described, however, it is impossible to give an adequate abstract. A. LEVY.

Addario, C.—Senile involution of the vitreous and of its ciliary matrix. (L'involuzione senile del vitreo e della sua matrice ciliare.) *Recueil des travaux Xe congrès international d'ophtalmologie*, Lucerne, septembre, 1904.

Addario describes and illustrates rarefaction changes which he has found to be present pathologically in the vitreous humour of elderly subjects. These usually take the form of clefts and fissures affecting for the most part the central portions of the humour. Addario believes that changes in the unpigmented epithelium of the ciliary body determine the vitreous rarefactions. ANNIE T. BARNARD.

Herbert, Major H.—A distinctive type of conjunctival papule. *Recueil des Travaux Xe congrès international d'ophtalmologie*, Lucerne, septembre, 1904.

Herbert describes a localised, transient, inflammatory swelling of the bulbar conjunctiva, allied to pinguecula, not uncommonly met with amongst natives of India. The nodule is solitary, prominent, usually of pinkish colour, and localised to the exposed interpalpebral conjunctiva, within 5 mm. or 6 mm. from the cornea. The nodule generally shows some paler spots, staining with fluoresceïn. The lesions, as a rule, do not persist for longer than two or three weeks. The histological examination of such cases showed three main pathological differences between the papules and ordinary pinguecula, namely, (1) inflammatory infiltration, (2) marked epithelial thickening, and (3) degeneration of the proliferated elastic tissue. At the same time, according to Herbert, some of the papules he describes might be named, not inappropriately, "inflamed pingueculæ."

II.—CHEMICAL INJURIES OF THE EYE.

(1) **Gräflin, Arthur.**—**Aniline colours. (Anilinfarben.)** *Zeits. f. Augenheilk.*, 1903, X, 3, and *Woch. f. Ther. u. Hygiene des Auges*, November 26, 1903.

(2) **Stephenson, Sydney.**—**Cases illustrating an unusual form of Corneal Opacity, due to the long-continued application of copper sulphate to the Palpebral Conjunctiva.** *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

(3) **Praun, E.**—**Violet staining of the conjunctiva and cornea with an aniline pencil; decolourisation with Hydrogen peroxide. (Violettfärbung der Bindehaut und Hornhaut durch Anilin-Tintenstift; Entfärbung durch Wasserstoffsuperoxyd.)** *Centralbl. f. prak. Augenh.*, Feb., 1904.

(4) **Bock, Emil.**—**Fragments of aniline dyes as foreign bodies in the cornea. (Klümpchen Anilinfarbe als Fremdkörper der Hornhaut.)** *Centralb. für prak. Augenh.*, April, 1904.

(5) **Natanson, A.**—**Wounds of the eye by substances containing anilin dyes. (Verletzungen des Auges durch Anilinfarbstoffhaltige Gegenstände.)** *Zeitschr. für Augenh.*, April, 1904.

(6) **Denig, R.**—**On injuries to the Eye with Ammonia. (Ueber Ammoniakverletzungen des Auges.)** *Zeitschr. für Augenh.*, April, 1904.

(6a) **Kauffmann, E.**—**Blue colouration of the conjunctiva and cornea. (Coloration en bleu de la conjonctive et de la cornée.)** *La Clinique Ophtalmologique*, 25 avril, 1904.

(7) **Villard, H.**—**Experimental and histological researches upon burns of the eye by sulphuric acid. (Recherches expérimentales et histologiques sur les brûlures de l'œil par l'acide sulfurique.)** *Archives d'ophtalmologie*, juin, 1904, p. 363.

(1) **Gräflin** has investigated the action upon the eye of a number of aniline colouring matters. About the same amount of each of the substances was dusted into the conjunctival sac of rabbits. Crystal violet, Victoria blue, and Malachite green induced panophthalmitis. The following

caused inflammation of the conjunctiva and cornea, namely, prēin, saffranin, auramin, rhodamin B, and rhodamin 6G. Methylene blue irritated the conjunctiva. Congo red, tartrazin, eosin, and water blue gave rise to no irritation. The foregoing experimental results were confirmed by the examination of 77 workmen in aniline colours who suffered from inflamed eyes. Of these men, 36 manifested keratitis and 41 conjunctivitis, and they had worked in material belonging to the first group or in colours nearly related to that group. However, such severe cases of keratitis as led to the loss of the eye in rabbits were not observed in men. MAX P.

(2) **Stephenson** describes a peculiar opacity of the cornea, which he has traced to the long-continued application of copper sulphate to the palpebral conjunctiva in cases of trachoma. The opacity usually takes the form of a faint, diffuse, smoky dulness, covering, at an advanced stage, the whole of the cornea, excepting a narrow peripheral ring, 0.5 mm. to 1 mm. wide. The upper and the lower part of this disc are more accentuated than the other portions, so that, on a casual examination, those may be the only changes noted. Stephenson's reasons for concluding that the cause of the opacity is copper sulphate are three in number: (1) that the change is found only in eyes, the conjunctiva of which has been treated with "bluestone"; (2) that the longer the treatment, the more pronounced the opacity; and (3) that scrapings from the affected corneæ give some of the chemical reactions of copper. Amongst 147 patients treated for a longer or shorter time with copper sulphate, Stephenson found the corneal change in 90, or 61 per cent. Several hundred applications of the escharoic in question appear to be necessary before the corneal lesion is produced.

(3) A schoolboy, while sharpening an aniline pencil, broke off the point, which flew into his left conjunctival sac. The lower fornix, the whole ocular conjunctiva, and the lid margins were much swollen and coloured an intense violet; the lower half of the cornea was also pigmented: V. = $\frac{2}{3}$. The colouring material could not be wiped off. Dionin, tried first, failed completely to bring about any change. On the fourth day a 3 per cent. solution of Merck's hydrogen peroxide was used. The instillations, which were very painful, were repeated frequently, and in the course of ten to twelve hours all the affected parts were completely decolourized. A slight irritation of the conjunctiva resulted, but disappeared in a few days, and V. rose to 6/6. A. LEVY.

(4) The patient, a youth of 16 years, got some aniline dye (gentian-violet ?) in his eye, and two days afterwards came to **Bock** for the purpose of having the foreign body removed. The

cornea had practically not taken up any of the stain, and the conjunctiva was only slightly discoloured below. After removal of the foreign body (done without cocain drops in order to prevent the dye going into solution), the discolouration of the cornea and conjunctiva cleared up within twenty-four hours, without the use of any chemical agent. A. LEVY.

(5) **Natanson** mentions much of the previous work, including the valuable article by Gräflin (abstracted above), and then recounts two cases of his own. The first, a boy 6 years of age, got a bit of an aniline pencil (methyl-or gentian-violet) into his eye. There was much inflammation of the conjunctiva and sclera and some slight circumcorneal injection. There was also deep discolouration of the conjunctiva and sclera round about the foreign body. Three days after removal of the foreign body, the whole condition had become normal. In the second case, a bit of a hectographic pencil got into the eye of a student, 18 years of age. Here, also, there was a deep violet stain of the conjunctiva and sclera, and some inflammation. The condition cleared up after removal of the offending particle. A. LEVY.

(6) **Denig**, after citing some of Trousseau's cases, recounts four of his own, all of which presented more or less the same course. The severer injuries occurred in ice factories by explosion of cylinders containing ammonia—the gaseous form being much more dangerous to the eye than the liquid, on account of its greater concentration. After such an injury (to cite a typical case) the conjunctiva was reddened, and the corneal epithelium slightly injured. At these injured spots the sensibility was much reduced. Vision = $\frac{6}{24}$. In the course of the following seven weeks, the eye became completely quiet : a trivial corneal scar could be seen, and vision had improved to $\frac{6}{9}$. Suddenly in the following week—that is, more than eight weeks after the injury —a yellowish exudation appeared in the anterior chamber, accompanied by marked inflammation of the eyeball. In the course of the succeeding ten days the whole anterior chamber became filled with this exudation. The cornea got hazy, but gradually in the course of the next seven or eight months the process quieted down, leaving a soft and sightless eyeball. From these cases Denig deduces the fact that the prognosis, even in apparently mild cases, is very doubtful, and that the ultimate result may be extremely bad. As far as treatment is concerned, the eyes should at once be well washed out with water. In one case calcined magnesia, rubbed up with water, was introduced into the eye immediately after the accident, apparently with good results.

A. LEVY.

(6*a*) An interesting case of staining of the cornea and conjunctiva by blue copying ink, violently projected over the face and eyes, is reported by **Kauffmann**. Sight was reduced to the counting of fingers at a distance of a few inches from the face. The staining of the skin was readily removed by means of alcohol and ether. The eyes were treated with boric ointment (2 %). The next day the corneæ were free from colour, but badly abraded, and there was violent conjunctival reaction. Eventually, R.V. $\frac{5}{7.5}$; L.V. $\frac{5}{5}$; no corneal opacities. W. ERNEST THOMSON.

(7) Impressed with the gravity of injuries to the eye by strong acids, **Villard**, of Montpellier, has made an experimental study of the subject. The results of his researches are reported at length in the present paper. The lids of rabbits being separated, some drops of commercial sulphuric acid were dropped into the eyes. The animal was then placed under a tap, and the injured eye wàshed with running water. The rabbit was placed in its hutch, and left without treatment for three hours to ten days, when it was killed. The eyes were immersed in Flemming's solution for forty-eight hours, embedded in paraffin, and cut for microscopic examination. Sections were stained by Flemming, Benda, and Unna's methods respectively. Sixteen observations were made. Broadly speaking, the sections showed a progressive march, and the histological changes were so much the more extensive the longer the time allowed to elapse before the rabbit was killed. The changes observed may be divided into four more or less well-defined groups, as follow :—(1) the phase of chemical fixation ; (2) the phase of leucocytic reaction ; (3) the phase of ulceration and perforation ; and (4) the phase of repair and cicatrisation. The main features of each of these groups may be described very briefly. (1) Sulphuric acid acts as a fixing agent upon every part of the eye that it touches, so that the corneal epithelium, while it often retains its position, becomes, as it were, mortified, and loses its capacity of being stained by the ordinary reagents or else stains diffusely. The milky appearance of the cornea, seen immediately after cauterisation by strong acid, is doubtless due to these changes in the epithelium. The substantia propria of the cornea shows few changes if the specimens be taken immediately after the injury—at most, the anterior layers manifest a difference in their staining reactions. In specimens taken three hours after the *vitriolage*, the cornea is somewhat swollen in an irregular way. The œdema (due entirely to increase in volume of the lamellæ) quickly increases, so that in older specimens the membrane may have a thickness three or four times greater than in the normal state. The fixed cells of the cornea, fixed or killed by the acid, become fewer and fewer and ultimately disappear altogether, probably

by molecular disintegration and solution in the fluids of the eye. Descemet's membrane may be found detached here and there and folded immediately after the injury. A slight albuminous exudation, devoid of leucocytes, is present in the anterior chamber three hours after injury by the acid. The conjunctival epithelium manifests changes analogous to but less profound than those already described as present in the case of the anterior corneal epithelium. An abundant exudation of mucus is poured out by the conjunctival cells soon after the cauterisation. This stage lasts from the moment of injury to twenty-four or thirty-six hours later. From what has been said it will be seen that the lesions of this stage are of a purely physical order, due to the acid employed in the experiments. (2) The tissues not destroyed outright now react and endeavour to repair the mischief caused by the burn. Leucocytic invasion of the cornea begins on the second day, and may further be present in specimens a month or longer after the original traumatism. The leucocytes, which belong for the most part to the polynuclear variety, come from the periphery of the sclero-corneal limbus. At this time similar bodies, as well as pigment from the stroma of the iris, are to be found in the exudation in the anterior chamber. The iris is infiltrated with leucocytes, while its cells have lost some of their pigment. The eyelids also are the seat of a leucocytic invasion. (3) About seven days after the primary injury, the cornea becomes the seat of one or many ulcers, at first superficial but later leading to perforation. (4) The perforations produced in the last stage become plugged by the iris and the hypopyon or covered in by an adhesion of the eyelids to the edge of the ulcer or, in extreme cases, by the lids welding with what remains of the eyeball. This process, however brought about, is followed by cicatrisation of the affected parts, and adhesion of the latter to one another.

Villard's article, which occupies twenty-three pages of the *Archives*, is illustrated by four plates, containing six figures.

S. S.

III.—GLAUCOMA.

Wahlfors, K. R.—On Glaucoma. *Arch. f. Augenheilk.*, März, 1903, and *Archives of Ophthalmology*, November, 1903.

Professor **K. R. Wahlfors**, of Helsingfors, has a closely reasoned and suggestive article upon the etiology of glaucoma.

The pathological investigation of glaucoma, he thinks, has not been carried out in the same thorough way that the symptomatology has been studied. This is due—first, to the small amount of material available, and, secondly, to the fact that the last stages of glaucoma, as a rule, are the only ones that have been submitted to examination. The numerous physiological experiments that have been undertaken have merely led to the discovery of important facts regarding the circulation of the intra-ocular fluids. Wahlfors explains the present ignorance of the true nature of glaucoma by claiming that we have started with a false conception, namely, that we have tried to discover the essence of the disease in the heightened tension of the eyeball. This may be justified in so-called inflammatory glaucoma, which begins with a marked increase in the tension, but the case is altogether otherwise in simple glaucoma. Wahlfors thinks that the two diseases—simple and inflammatory glaucoma—are essentially one and the same affection, thus differing from Schweigger, de Wecker, Knies, and some other writers. He believes that the increase in tension is the result and not the cause of the glaucomatous process. Wahlfors therefore concludes that " increased tension and glaucoma are not identical."

Applying these views, Wahlfors proceeds to examine critically the modern " retention theory " of glaucoma. As well known, this theory assumes the cause of glaucoma to lie in an interference with the outflow of liquids from the eye, either at Fontana's spaces or at the posterior pole of the eye. Attempting to get closer to the root of the matter, Knies assumed that an indurative inflammation at the sclero-corneal margin was the factor that led to blocking of Fontana's spaces and to an adhesion between the root of the iris and the cornea. Knies' investigations were made upon cases of old glaucoma, and in the few instances where the recent disease has been examined, this adhesion was missing. Moreover, clinically an inflammatory process of the parts indicated, as a cause of glaucoma, has never been observed. The Knies theory, therefore, appears to Wahlfors to be more than doubtful. Weber believed the block to be owing to a venous stasis and consequent œdema in the ciliary body pressing the iris against the cornea. Although the retention theory may apply in cases of inflammatory glaucoma, yet it does not hold in cases of simple glaucoma.

Wahlfors regards reduction of the light-sense in simple glaucoma as an indication of the nature of the fundamental cause. Night-blindness is often a prominent and characteristic symptom in the beginning in simple glaucoma. The cause of hemeralopia is a functional change in the layer of rods and cones, due to disturbances in nutrition. This must be sought in the inner layers of the choroid, the vessels of which normally nourish the outer layers of the retina. The deduction is that the cause of simple glaucoma must lie in the choroid. Now it has been found that an extensive atrophy of the choroid is a constant condition in glaucoma (Goldzieher and Fuchs). Wahlfors has often been surprised to find in simple glaucoma fundus changes in every respect like those that occur in retinitis pigmentosa. He believes that the cases of acquired retinitis pigmentosa reported in the literature are merely instances of simple glaucoma with marked atrophy of the choroidal pigment. The diminution of the light-sense, the narrowing of the field of vision, and the reduction of central vision are in perfect accord with the hypothesis of a choroidal atrophy. The atrophy is at first partial. It usually begins in the periphery and slowly extends towards the centre of the field, although sometimes the reverse of this occurs. Limited areas extending from the periphery toward the centre and islets of atrophy may be present, and cause the different defects in the field seen in simple glaucoma.

Wahlfors does not hold the view that increased intra-ocular tension is the cause of excavation of the optic disc. Locker's physiological experiments on normal eyes have shown that the intra-ocular tension must be raised to 135 mm. of mercury in order to produce excavation of the disc. Since this pressure is much higher than is found in glaucoma—where it ranges from 30 mm. to 80 mm., and rarely reaches 100 mm.—it is probable that the increase in intra-ocular tension, as we find it in diseased conditions of the eye, is not sufficient to distend the walls of the eye, provided they are healthy and of normal resisting power. Increased tension need not necessarily cause excavation, and the latter may occur without an increase in tension. The excavation, according to Wahlfors, must depend upon the fact that the lamina cribrosa has lost more or less of its normal resistance. It has been shown pathologically that in glaucomatous cupping there is a considerable atrophy of the supporting framework of the lamina. The cause of the excavation is therefore to be sought, not in the increased tension but primarily in a lessened resistance in the lamina cribrosa. Since the anterior portion of the lamina is a direct continuation of the choroid, we may assume that an atrophic process running its course in the last-named structure would also involve the elastic tissue and thus lead to the excavation. The choroid exerts pressure upon the fluid contents of the eyeball, and, further, increases the lymph circulation of the eye. An atrophic process in the choroid diminishes the contractility of the choroid, and thereby causes a slowing of the lymph current. As long as secretion and absorption remain balanced, the tension is unaltered. In consequence, however, of the retarded circulation the ocular liquids pass more slowly through the channels of exit, and all the formed elements of the blood, such as cells, pigment granules, and the like, are deposited in and gradually block the channels. The liquid in the eye increases, and the tension rises. But with the increased tension the canals are forced open and the circulation becomes normal until the canals are again blocked and the increased tension returns. This represents the prodromal stage of the disease. It may come about that the stoppage of the channels of exit is so considerable that the increased tension is not sufficient to open them. To increased tension, disturbances in the circulation of the blood are now added. Such disturbances are exclusively of venous character, and depend upon the hindered exit of the venous blood through the venæ vorticosæ. In man the anatomical relations of the venæ especially favour a venous stasis, since they pass obliquely through the sclera, and when the tension rises, are compressed like so many valves. The result is congestion in all the veins emptying into the venæ vorticosæ, a stasis especially well marked in the ciliary body, iris, conjunctiva, and circumcorneal veins. Another result is exudation of liquid into the vitreous and emigration of red and white blood corpuscles, causing a more or less pronounced opacity of the media. In this way the tenson is still further increased and the venæ vorticosæ more compressed. The vicious circle is completed, and the glaucoma does not undergo retrogression.

Wahlfors' views may be briefly recapitulated as follows: Three factors are at work in glaucomatous increase of tension: (1) paralysis of the muscular network of the choroid, causing retardation of the currents of liquid; (2) blocking of the channels of exit by the deposit of formed elements, causing a retention of the intra-ocular fluids; and (3) compression of the venæ vorticosæ, leading to general venous stasis and its results. Each of these factors may affect different persons in different ways, and may thus produce different manifestations of glaucomatous increased tension. In fine, all the manifold manifestations of acute and chronic glaucoma may be readily explained by the various ways in which the factors work together or in opposition.

With regard to the treatment of simple glaucoma, the continued use of eserine generally acts well. As a means of preventing the spread of the atrophic process in the choroid, Wahlfors recommends repeated injections of strychnine. Peripheral iridectomy remains the sovereign means of reducing tension. In most cases the action of anterior sclerotomy is *nil*. Posterior sclerotomy relieves tension for several days. The very frequent use of eserine is advocated in cases of acute congestive glaucoma, where for some reason iridectomy cannot be performed.

IV.—PARINAUD'S CONJUNCTIVITIS.

(1) **Jocqs, R.—A Case of Parinaud's Infectious Conjunctivitis. (Un cas de conjonctivite infectieuse de Parinaud.)** *La Clinique Ophtalmologique*, 25 septembre, 1903.

(2) **Darier. Dr. A.—Parinaud's Conjunctivitis, clearly of animal origin though difficult to prove so; abundant conjunctival vegetations; suppuration of pre- and retro-auricular glands. Curetting. Cure. (Conjonctivite de Parinaud, d'origine animale nette, mais difficile à déterminer; végétations Conjonctivales abondantes; ganglions pré- et rétro-auriculaires suppurés. Curettage. Guérison.)** *La Clinique Ophtalmologique*, 25 septembre, 1903.

(3) **Stirling, J. W., and McCrae, John.—A Case of Parinaud's Conjunctivitis, with pathological report.** *Montreal Medical Journal*, August, 1904, p. 575, and *Ophthalmic Review*, October, 1904.

(4) **Matys, W.—A Case of Parinaud's Conjunctivitis. (Ein Fall von Parinaud's Conjunctivitis.)** *Zeitschrift f. Augenheilk.*, Oktober, 1904.

(5) **Stratford, Howard M.—A form of septic conjunctivitis found in Assam.** *Lancet*, October 15, 1904.

(1 and 2) **Jocqs** and **Darier** each publish one of the rare cases of infectious conjunctivitis described by Parinaud in 1889 (*Société d'Ophtalmologie de Paris*, 5 février). The cases are given in considerable detail, but each corresponds so closely to Parinaud's original description that it may suffice to translate the latter as quoted by Darier. "The conjunctiva is the seat of red or yellowish vegetations, semi-transparent at first, becoming opaque later, and sometimes reaching the size of a very large pin's head. Beside these fleshy granulations there are smaller ones, quite yellow, which at first made me think of tuberculosis of the conjunctiva. The cornea seems to have no tendency to be affected. There is some mucous secretion with fibrinous deposits, but no real suppuration. The eyelids are swollen, firm to the touch, and present irregular nodosities. There is but little tenderness of the conjunctiva and the glandular engorgement is rather indolent. The disease is eminently infectious and always causes suppuration of glands; it is almost always unilateral and seems to be transmitted to man by animals." As to treatment, Jocqs, after trying all the usual remedies without success, resorted to light and superficial cauterization with the galvano-cautery. This was done twice at intervals of eight days, and was followed by mitigated

sulphate of copper several times. At the end of two months the case was cured, the conjunctiva appearing greyish-white and smooth, cicatricial-looking, but pliant and free from retraction. Darier had the same experience as regards the usual remedies such as nitrate of silver, copper sulphate, chromic acid, iodoform, etc., and he also advises the galvano-cautery, except where the granulations are very extensive, and thus necessitate so many sittings that re-infection takes place between times. He curetted the glands and found the same vegetation therein.

W. ERNEST THOMSON.

(3) **Stirling** and **McCrae** report the following case of so-called infective or septic conjunctivitis. A male (age not stated) suffered from an inflammation of one eye, accompanied by ptosis, swelling of the lids, scanty muco-purulent discharge, chemosis, numerous granulations on the conjunctiva, enlargement of the preauricular and cervical glands, and an evening rise of temperature. In short, a typical Parinaud's conjunctivitis existed. Culture from the muco-purulent discharge (taken on several different occasions) showed a slender bacillus, suggestive of the Klebs-Löffler bacillus. It stained by Gram, grew on gelatine without liquifying the medium, produced no turbidity in broth, gave rise to an acid reaction in litmus milk, and, when inoculated, proved fatal to a brown mouse in thirty-six hours. A guinea-pig inoculated in the skin of the back, became dull and did not feed for twenty-four hours, but the wound healed well and the animal survived. The polar granules could not be stained by (*sic*) Nissl's method, and that was the sole point of difference between the organism described by Stirling and McCrae and the true diphtheria bacillus. Gland tissue excised from the parotid region was seen upon section to be made up partly of parotid gland and partly of lymphoid tissue, dotted throughout by small abscesses. Smears from these areas showed pus cells, but no organisms were found resembling those described above. Cultures from the patient's nose and throat (where some small ulcerated patches existed), failed to show the diphtheria-like organism. That the micro-organism described was the cause of the conjunctivitis seems to be shown by the fact that it persisted in pure culture for twenty-five days in spite of the employment of active local antiseptics. The authors express their opinion that the microbe in question is either a virulent form of the B. Xerosis or an attenuated variety of the Klebs-Löffler bacillus.

(4) **Matys** describes a case of Parinaud's conjunctivitis from Professor Deyl's *clinique* in Prague. A cattle dealer, aged 40 years, developed a severe inflammation of the nose and throat, and this was followed a few days later by redness

and discomfort of one eye. The ocular appearances rapidly developed into a typical clinical picture of Parinaud's conjunctivitis. After the disease had lasted about two and a half months, the conjunctival secretion was examined, and found to contain staphylococci. In the further course of the case pus was liberated by incision from the preauricular, submaxillary, and supraclavicular glands. Cure was practically complete after the disease had lasted about a year, the conjunctiva then showing inconsiderable scarring only. When the malady had lasted some eight months, pieces were removed from the lower conjunctival *cul-de-sac*, placed in formol (10 %) and in alcohol, and prepared for the microscope. Under a low power, no loss of substance could be detected in the epithelium. There was a marked infiltration of the deeper tissues. The blood-vessels, especially the veins, were engorged. Under a higher power, the epithelium showed extremely numerous goblet-cells. Polynuclear leucocytes were found between the epithelial cells. Matys lays stress on the fact that the infiltration consisted mainly of plasma cells (Unna). Mitotic division was not observed. Neither giant nor epithelioid cells could be found. Trachoma could be histologically excluded. Inoculation of the anterior chamber of three rabbits with particles of diseased conjunctiva, led to no reaction, either local or general. S. S.

(5) Apropos of R. W. Doyne's recent communications on "septic conjunctivitis" (*see* THE OPHTHALMOSCOPE, March and July, 1904), **Stratford** points out that a similar, if not identical, disease is to be found amongst the coolies employed in the tea-gardens of Upper Assam. Now and then cases are also met with in Europeans. Age is without influence upon the incidence of the disease. Stratford believes that contagion may very possibly pass to human beings from the native dogs, of which many suffer from mange. Flies are also mentioned as a source of potential infection. The disease is more prevalent at the beginning of the rainy season—that is to say, when insects are most numerous and troublesome.

V.—ANÆSTHETICS, LOCAL AND GENERAL.

(1) **Krauss.—Local Anæsthesia : Acoine, Cocaine, and Adrenaline.** *Münch. Medic. Wochen.*, 1903.

(2) **De Lapersonne.—A new local anæsthetic : Stovaïne. (Un nouvel anesthésique local : la stovaïne.)** *Presse Médicale*, 13 avril, 1904, and *Recueil d'ophtalmologie*, août, 1904, (abstract).

(3) **Hinshelwood, James.—Dionine; a new ocular analgesic.** *British Medical Journal*, April 30th, 1904.

(4) **Gutman, J.—Report of a new method for the application of local anæsthesia in operations on the eyeball and lids, especially in trachoma.** *Archives of Ophthalmology*, May, 1904.

(5) **L'Hardy, A. Gaullieur.—Influence of fear in cases of death by Chloroform. (Influence de la peur dans les cas de mort par le chloroforme.)** *Gazette des Hôpitaux*, 28 juillet, 1904.

(6) **Valude, E.—Chloride of ethyl in general anæsthesia. (Le chlorure d'éthyle en anesthésie générale.)** *2e livraison du recueil des travaux Xe congrès international d'ophtalmologie*, Lucerne, septembre, 1904.

(7) **Langgaard, A.—Eucaine lactate.** *Therapeutische Monatshefte*, August, 1904, and *Therapist*, September 15, 1904.

(1) A combination of cocaine and acoine has been recommended by Darier to induce a local anæsthesia more prolonged and less dangerous than that given by cocaine alone in operations upon the eyelids and the eyeball. Spindlers has shown by experiments upon himself that the anæsthetic action of acoine lasts three or four times longer than that produced by cocaine. **Krauss** recommends the following solution as a local anæsthetic: acoine, Ogr .025; cocaine, Ogr .05; 0.8% solution of sodium chloride, 5 grammes. When abundant hæmorrhage is expected—for example, in extirpation of the lacrymal sac—the addition to the above of 1:1000 adrenaline chloride is recommended. This liquid, contained in a Pravaz syringe, is to be injected at four different points around the site of operation. The foregoing method of local anæsthesia is to be recommended in the following cases:—(1) In enucleation where from any cause narcosis is contra-indicated. In this event, a syringeful (1 c. cm.) is to be injected all around the globe. The temporary tumefaction of the orbital tissue thus produced does not interfere in the least with the subsequent cicatrisation. (2) In operating for strabismus in children or adults, complete anæsthesia may be obtained by injecting half a syringeful at the level of the muscle to be advanced. (3) Speaking generally, in all operations upon the conjunctiva, eyeball, or eyelids the solution gives brilliant results, and it also acts well when practising subconjunctival injections of sodium chloride, which are, as a rule, so painful. Further, in "expression," the employment of the liquid renders the granulations more visible and accessible to the surgeon. (4) In all operations upon the eyelids, as ptosis, transplantation,

extirpation of tumours, &c. (5) In operations upon the lacrymal apparatus, extirpation of the gland, and, above all, of the lacrymal sac. A. DARIER.

(2) **De Lapersonne** has experimented with a new local anæsthetic, namely, stovaïne or hydrochloride of amyleine β, a product obtained by Fourneau and brought under the notice of the Academy of Medicine by Billon. De Lapersonne has satisfied himself that a one per cent. watery solution of the new agent is much less toxic than cocaine of the same strength. A rabbit weighing 2 kil. 450 was injected intravenously with 25 cc. of the solution, and presented merely some nervous jerking and a little tetaniform contraction; while a rabbit of the same weight succumbed to an injection of 8 to 10 cc. of a solution of cocaine. As a collyrium, a 4 per cent. solution of stovaïne was employed. When dropped into the eye of a rabbit, it immediately produced contraction of the eyelids, followed by blinking and by lacrymation. The palpebral reflex was then abolished, and slight myosis produced. The anæsthesia lasted from three to ten minutes. By using the liquid two or three times the anæsthesia became profound and persisted for twenty-five minutes; but there was slight desquamation of the corneal epithelium. Employed in the same proportion cocaine gave a more complete and durable anæsthesia. Operations upon the cornea, conjunctiva, and muscles were not felt by the rabbit, but iridectomy was always painful. Subconjunctival injection of 1 per cent. to 4 per cent. solution gave rise to an anæsthesia lasting at least fifteen minutes. A few drops of the liquid placed in the eye of a healthy man produced a sensation as of a foreign body, smarting, lacrymation, and photophobia; anæsthesia, which disappeared in ten minutes, was brought about in two minutes. With the aid of stovaïne, De Lapersonne has performed several operations, such as operations upon the cornea and conjunctiva, iridectomy, and cataract extraction. The slight desquamation produced by stovaïne does not interfere with cicatrisation. Subconjunctival injections allow one to obtain sufficient anæsthesia for squint operations; and tarsal cysts may be removed practically without pain by injecting the remedy beneath the skin. The author concludes that stovaïne, although inferior to cocaine for instillation, is superior to the latter for subcutaneous and subconjunctival injection. He purposes to employ a solution containing two parts of stovaïne and one part of cocaine, a proportion that allows one to obtain anæsthesia without at the same time modifying either the tonus or the vascularisation of the conjunctiva. J. GALEZOWSKI.

(3) **Hinshelwood** adds emphatic testimony to the power possessed by dionine of relieving pain in the eye. He employs

a 2 per cent. to 5 per cent. watery solution, unless there be marked lacrymation, when he prefers a vaseline ointment of the same strength. The drops or ointment may be applied every four, six, or eight hours, according to the severity of the pain and the effect produced. Hinshelwood compares the analgesic properties of cocaine, holocaine, and dionine, and concludes that the last-named is much the most efficient.

(4) After referring to the dangers of general anæsthesia, **Gutman** gives a brief history of local anæsthesia in ophthalmic surgery, before describing his own method. He selects the operation for trachoma (" expression ") to illustrate it. One or two drops of a 4 per cent. solution of cocaine or 1 per cent. holocaine is instilled within about three minutes into the conjunctival sac. The skin of the lids, with particular attention to the eyelashes, is washed with soap and water. A Pravaz syringe, holding 25–30 minims, is filled with the following solution : chlorid., 0.2 ; cocaine, 0.05 (for very sensitive patients, 0.1) ; distilled water, 100. A fine No. 27 needle, ½-inch long, is then attached to the syringe. The cartilage of the upper lid is turned over and retained in position with roller-forceps, and the injection is made into the retrotarsal folds, which contain loose connective tissue capable of infiltration. The syringe is introduced carefully in an oblique, almost horizontal, direction, near the upper margin of the tarsal cartilage as superficially as possible. If this step is done with great care the patient will experience no pain. After the needle is introduced, an assistant pushes in the piston of the syringe, and as soon as four or five drops are injected, a greyish white wheal is formed. The needle is now withdrawn, and the forceps dispensed with as the wheal keeps the lid everted. This wheal being the first anæsthetic area, the anæsthetizer can now proceed more boldly. The point of the needle is introduced within the border of the wheal, and more fluid is injected until the entire conjunctiva is infiltrated. Fifteen to twenty drops are usually sufficient. This plan also renders the trachoma granules more pronounced, especially in daylight, so that they can be attacked more thoroughly and systematically than in the usual method. After some experience, the assistant may be dispensed with. Upon everting the lid in most cases of trachoma, a swelling of the conjunctiva at the inner or outer canthus is to be seen. The injection and formation of the first wheal may be begun there, and the cartilage will then turn by itself, rendering the use of forceps unnecessary. The lower lid is anæsthetized in the same manner, but as the turning of the cartilage is unnecessary, the process is simpler.

The foregoing method was employed in fifty-two consecutive operations for trachoma. The author claims that in none could it have been performed as painlessly with any other local form of anæsthesia, and that in the majority of these cases a general anæsthetic would have been necessary. For squint operations the injection is made into the bulbar conjunctiva. In operations upon the external surface of the lids the conjunctiva must also be infiltrated, but limited experience, as yet, prevents a proper explanation of this fact. In order that the œdema may not mask the field of operation unduly, care should be taken not to inject more fluid than is absolutely indicated for anæsthesia.

JOSEPHINE W. HILDRUP.

(5) The relatively greater safety of chloroform in children has been explained by Toulouse by the absence of fright in them as compared with older subjects. Bodine, of New York, has reported two cases where death from fright occurred, in one case at the very commencement of anæsthesia, and in the other before anæsthesia, during the administration of an enema. That author claims that the negroes of Southern America support chloroform well, mainly because, like children, they are unconscious of danger, and place implicit reliance upon their medical attendants. In somewhat the same way Bodine explains the well-known fact that parturient women stand chloroform so well. **L'Hardy** points out that if the foregoing explanation be true, the mortality of the different agents used to induce general anæsthesia should be identical, which is not the case. However, the admitted relative safety of ether, and still more so of nitrous oxide, may suffice to explain their greater safety by giving the patient no cause for fear.

(6) **Valude** advocates the advantages of ethyl chloride as a general anæsthetic in practical ophthalmology.

(7) Eucaine lactate (Schering) is a white powder readily soluble in cold water. Its sole action is to produce local anæsthesia. For use in ophthalmology **Langgaard**, who regards the new agent as an alternative to cocaine, recommends a 2 % or a 3 % solution. It may, if necessary, be combined with adrenaline.

J. F. S.

REVIEWS.

Eye-Strain as a cause of headache and other neuroses.—By Simeon Snell, F.R.C.S.Ed. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd. 4, Stationers' Hall Court, E.C. John Bale, Sons & Daniellson, Ltd. 83-89, Great Titchfield Street, Oxford Street, W. 1904. Price 2s. 6d. net.

This little book is nicely got up, well printed, and written in an attractive style. Apart from some illustrations shewing how much indistinctness is caused in photographs by placing low cylinders close to the lens of the camera, there is nothing in the book to call for comment, as ophthalmic surgeons are familiar with the symptoms and treatment described in it.

R. J. C.

Squint occurring in Children.—An Essay by Edgar Brown, F.R.C.S.Ed., assisted by Edgar Stevenson, M.D., M.Ch. Aberd. London: Baillière, Tindall & Cox, 8, Henrietta Street, Covent Garden. 1904. Price 2s. 6d. net.

This essay gives an account of the natural history and cardinal symptoms of typical concomitant convergent squint, and of the educational treatment adopted by the author for its cure. All variants, statistics, measurements, and novelties are deliberately omitted. As a statement of the mature opinion of one who has evidently thoughtfully studied the cases under his care it is interesting, while the results quoted in patients who are now adults show that the methods of treatment described are efficacious, although admittedly tedious. The visual causes of the abnormality are insisted on to the almost entire exclusion of the muscular, and the necessity for early and persevering treatment of the amblyopia and defective fusion is rightly emphasized.

The book is well and forcibly written, and might with advantage be studied by all medical men, although its value to those who are not familiar with recent work on the subject is somewhat discounted by the absence of all reference to opinions and methods other than those of the author.

Appendix II, by Mr. Edgar Stevenson, contains the history of some cases which have been under observation for long periods, and illustrates the good results which can be obtained without operation by orthoptic treatment.

R. J. C.

Ophtalmie purulente des nouveau-nés, frequence, gravité, prophylaxie, et traitement. Par Dr. EMILIO ALVARADO. Published by DE JORGE MONTERO, Acera de San Francisco, Valladolid, Spain, 1903. Price, 2 fr. 50 ct.

Our correspondent Dr. Emilio Alvarado, of Valladolid, has published in Spanish a careful account of ophthalmia neonatorum, and further has had it translated into French, so as to make it more generally available. Alvarado has since 1897 been studying the frequency and gravity of the disease, and its treatment, both actual and prophylactic. He has circularised a large number of ophthalmologists in all parts of the world. The conclusions reached by the author may, therefore, be regarded as the actual product of most of the specialists of the civilised world. Although they contain nothing new, their value is nevertheless great, since they may do much to check and to cure a disease which is one of the most frequent causes of blindness. Hermann Cohn, of Breslau, has rightly said that ophthalmia neonatorum can and should disappear from all civilised countries. With regard to the frequency of the disease, Alvarado states that statistics are not altogether trustworthy, as many cases are overlooked. The number is, however, large, and elaborate figures obtained from foreign colleagues are adduced. As to gravity, Alvarado admits the existence of both mild and severe cases. Neither the bacteriological examination nor the clinical symptoms are of avail towards establishing a definite prognosis, since the presence of the gonococcus may be associated with mild symptoms and its absence with the reverse. Alvarado affirms that ophthalmia neonatorum accounts for about 20 per cent. of all blindness. Moreover, it is responsible for much impaired sight short of actual blindness. These results are the outcome of ignorance on the part of the parents in not calling in medical aid immediately discharge is noticed from the baby's eyes. In discussing prophylactic treatment, Alvarado distinguishes three varieties of the disease, *viz.* :

1. Intrauterine, which is rare and which begins before birth ;
2. Primary, which is acquired during labour, is the commonest form, and which depends upon the inoculation of the baby's eyes with the septic secretions of the mother's genital tract ; and
3. Secondary, occurring after birth from inoculation.

Alvarado assigns to Benjamin Gibson, of Manchester, the praise of having been the first to establish the proper rules of prophylaxis. The author is a staunch adherent of the Credé method, carried out according to the letter of the law. The measures enforced by several governments, which ought to be adopted by all, are clearly stated by the author. He further insists upon dissemination of knowledge concerning ophthalmia neonatorum by means of the press, conferences, schools of hygiene, and in every other way possible.

Alvarado analyses the advantages and the disadvantages of the different treatments adopted in various parts of the world, and concludes by saying that he himself prefers frequent irrigations of a tepid boric acid lotion, and the direct treatment of the conjunctiva with a 2 per cent. silver nitrate solution, the excess of the caustic being neutralised. In corneal ulceration he employs an ointment composed of atropine, finely powdered iodoform, and white vaseline. When an ulcer is situated towards the periphery of the cornea and is likely to perforate, physostigmine should be substituted for atropine.

Alvarado's *brochure* is instructive and useful, and should be read not only by the specialist but also by the practitioner and the public in general. CHARLES MANCHÉ.

Clinical Studies in Syphilis. By ARTHUR H. WARD, F.R.C.S.Eng., Surgeon to the London Lock Hospital, and Clinical Assistant to the Dermatological Department, St. George's Hospital. London: THE MEDICAL TIMES, LTD., 1904. Small 8vo., pp. 156.

We have read this book with great interest, as it appears to us to be one of the most up-to-date and scientific treatises we have met with. In order to harmonise the complex phenomena of syphilis, Mr. Ward adopts the "microbe-toxin" theory of the nature of the disease and of its manifestations, and we think this to be, so far as the light of modern research shows, the best hypothesis to adopt. At any rate, in Mr. Ward's hands, by the facts which he gives us and the inferences he draws, the theory is a most valuable one. There is very little to criticise in the book itself, but we may allude to one omission which may be supplied in another edition, *viz.*, an authoritative account of digital chancres, and their varying and often deceptive appearances. The ocular manifestations of syphilis receive scant attention, being disposed of in two pages. But we forbear to harp upon deficiencies, and prefer to dwell upon excellencies. The volume is no mere compilation, but a careful digest of an exceptionally wide clinical experience, and bears on every page evidences of personal observation and, in many places, of original thought. The absence of illustrations is no drawback, as the manifestations of syphilis can only be adequately produced in large and costly atlases. We commend this volume to the earnest attention of every medical man. A. H. T.

NOTES AND ECHOES.

The Bowman Lecture. READERS will recollect that the Bowman Lecture of the Ophthalmological Society by Dr. F. W. Mott, F.R.S., originally fixed for June 30th, 1904, had unfortunately to be postponed owing to the illness of the lecturer. Dr. Mott's many friends will be relieved to hear that his health is now so far re-established as to allow him to deliver the lecture at 9 o'clock p.m., on Thursday, November 3rd. The subject chosen is the appropriate one of "The Visual Cortex."

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Transactions of the Ophthalmological Society. VOLUME XXIV. of the Society's *Transactions* will have appeared before these lines are in print, thus sustaining its character for punctuality. This year, for the first time in its history, the volume will have no lithographic plates. The latter will be replaced by the new tri-colour process, which, if we may judge from what we have seen, will be satisfactory in every way.

* * * *

Ophthalmological Society. IT is rumoured that during the coming session an attempt will be made to get one of the meetings of the Ophthalmological Society held out of London. The suggestion meets with our cordial approval. Such a plan has been found to succeed admirably in the case of other medical societies, amongst which we need only mention the Society for the Study of Disease in Children. That the Ophthalmological Society is alive to the claims of its numerous provincial members may be gathered from the fact that since 1893 no fewer than three Presidents have been drawn from Scotland, Ireland, and the provinces. On the Council, moreover, the provinces are strongly represented. There can be little doubt that a meeting in one of the great extra-metropolitan centres would be an unqualified success. There would be no dearth of clinical cases; excellent communications would be forthcoming; and, last but not least, the claims of provincial members would receive ample recognition. As matters stand, it is an intolerable burden for members to bring to London interesting cases from all parts of the kingdom, sometimes indeed from its remotest corners.

* * * *

The late Professor Panas.

A CEREMONY of great interest took place on June 26th, in the Ophthalmological Department of the Hôtel Dieu in Paris, when a monument to the memory of Professor Panas was inaugurated by his friends, pupils, and admirers. This graceful recognition reminds us that Panas founded the eye *clinique* at the Hôtel Dieu. The Committee, of which Professor Guyon was chairman, has had a medal struck, so that each subscriber may possess a permanent memorial of the late Professor. The actual ceremony of unveiling the monument was undertaken in the presence of a large and distinguished company. It was performed under the able presidency of M. Chaumié, Minister of Public Instruction and of Fine Arts. Several Ministers of State, including MM. Mesureur and Delyanni, were present in honour of the occasion, and acknowledged in feeling terms the services of Professor Panas. The professional side of the late Professor's character was dwelt upon by his friends, Drs. Debove, Van Duyse, De Lapersonne, Nélaton, and Jaccoud.

* * * *

Optology: a New Profession.

THE following trenchant paragraph is culled from the *Lancet* of September 10th, 1904 :--"Our friends the so-called 'optologists' are not letting the grass grow under their feet, and are rapidly developing their pretended profession into one of the most rampant forms of unprincipled quackery. We have before us an illustrated pamphlet recently issued by one of the firms engaged in the disreputable business. It not only contains portraits of the proprietors, but also views of the rooms in which the 'sight-testing' is conducted, while the pictorial pages are accompanied by others containing letterpress in which the claims of the advertisers are set forth. In one of the pictures we have a view of a young man being examined ophthalmoscopically, presumably with a view to estimating his refraction, and we have on several pages the distinctly false assertion that 'spectacles concern the *optical* *part of the eye only*, and have nothing to do with disease.' It must always be an open question whether impostors should be exposed or should be suffered to expose themselves, but in this instance we think the medical profession would be well advised in using whatever opportunities may offer themselves of explaining the true character of very dangerous false pretences and of warning their patients against the devices of persons whose announcements show them to be as devoid of scruples as of knowledge. The Company of Spectacle Makers in letting loose this flood of quackery have not only discredited themselves but have also inflicted a great and grievous injury upon the public."

* * * *

Professor Fuchs' adventure.

PROFESSOR ERNST FUCHS, of Vienna, had an unpleasant experience lately when travelling in Sicily, that "gem among islands." Despite the general safety of the island-garden, it appears that "brigantaggio" is not altogether a thing of the past, as the guide-books would have us believe, and as Professor Fuchs has found out to his cost. It seems that the Professor and his daughter were climbing Mount Ætna, the loftiest volcano in Europe, when they were stopped and despoiled of several hundred francs, in addition to a gold watch. An incident of this kind carries one back a century to the days when highwaymen were rife in all lands. Sicily still hugs many relics of barbarism, including the vendetta, the Mafia, the Mano fraterna, the midnight assassin, and the bandit.

* * * *

"Entre Aveugles."

As may be gleaned from our advertising columns, Dr. W. Ernest Thomson's translation of Javal's *Entre Aveugles* is now ready. The English version is called "The Blind Man's World," a descriptive and attractive title upon which Dr. Thomson may be congratulated. The book is full of interest, not only to ophthalmic surgeons, but also to those who have been unfortunate enough to lose their sight. For the latter it may be described as a veritable vade-mecum.

* * * *

Spectacles superseded.

MR. STEPHEN SMITH, who has leapt into such sudden notoriety, should be handled without gloves—to use a sporting phrase—by the profession of which he is a member. His public proclamation of what he claims to be a scientific discovery in ophthalmic surgery to a knot of newspaper reporters is an outrage upon the traditions that govern medical life. The result of that undignified procedure has been a huge advertisement for Mr. Stephen Smith, and, incidentally, for the anti-vivisection hospital over whose ophthalmic department he has been elected to preside. It may be, of course, that Mr. Stephen Smith has achieved a success that other experimenters in the same direction have failed to attain. Anyway, he is not the first worker in that particular field. The leaderette in the *British Medical Journal* upon this point is singularly ill-informed when it speaks of massage as "not having been so far credited with the power of altering the shape of a living, elastic globe." As a matter of fact, a great deal has been written about the influence of massage upon errors of refraction by Darier in 1899, by Gradenigo in 1894, and by Domec of Dijon. In Darier's *Leçons de Therapeutique Oculaire* (1902), a full description is given of the effect of pressure-massage upon hypermetropia, myopia, and other errors of refraction, so that Mr. Stephen Smith cannot even claim originality in his precious "discovery." Meanwhile, he has embarked in a sort of public fight with an optician, one Aitchison, while "an ophthalmic surgeon," a Dr. William Ettles, "of 141, Minories," is apparently to hold the stakes, and to act as umpire between surgeon and tradesman. Whatever else Mr. Stephen Smith may or may not achieve he may congratulate himself on having demonstrated the futility of seeking to maintain an unwritten code of medical ethics. A similar contempt of professional opinion would not have been for a moment permitted among the lawyers, who are not in the habit of making rules that cannot be enforced. If the "puff oblique" is to be disallowed in the medical world, the offence must be clearly defined and penal powers be given to the General Medical Council for its suppression. Otherwise, our Stephen Smiths will be with us to the crack o' doom.

* * * *

Trachoma in New York.

FROM a recent issue of our contemporary, the *Medical News*, we gather that with the opening of the public schools, the Health Department of New York will renew its battle with trachoma amongst the school children. Children afflicted with the disease will be kept from school and submitted to medical or surgical treatment, as the case may be. A new hospital has been opened by the department, and "from five to six operations a day is the capacity of the hospital." Treatment will be carried out at that place and at a small building on the grounds of Gouverneur Hospital. When the trachoma question is settled, it is intended to test the children's eyes for defective vision.

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ORIGINAL COMMUNICATIONS.

NEW CONQUESTS OF OCULAR THERAPEUTICS.

BY

DR. A. DARIER,
OF PARIS, FRANCE.

(Continued.)

IN future subconjunctival injections of sodium salicylate will possess fairly precise and particular indications in cases where the rheumatic etiology has been well established.

In the same way good results have been obtained by using lithium benzoate in cases of calcareous infiltrations of the cornea (Mazet*, Oliveres†).

The instillation of iodide of potassium, which is strongly recommended by Dr. Badal, has hitherto acted upon opacities of the lens in a manner which was very much open to question. Certain practitioners, however, were in the habit of prescribing rather large internal doses, in order to promote the resorption of cortical masses after operations for cataract, or after the removal of the transparent lens in cases of high myopia. I must confess that I have never had much confidence in this means, but I have occasionally observed an improvement in the clearness of vision under the prolonged action of the following collyrium :—

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*For abstract, see THE OPHTHALMOSCOPE, Vol. I (1903), p. 153.

†For abstract, see THE OPHTHALMOSCOPE, Vol. II (1904), p. 383.

Potassium iodide, 0.15 gr.
Sodium iodide, 0.15 gr.
Distilled water, 10 gr.

S.—*One drop to be instilled into the eye* 6 *or* 8 *times a day.*

In cases where patients had persevered for many months with these instillations without any apparent benefit, I have observed that the lens, when extracted, was considerably smaller than an ordinary cataract.

Should the results which are reported of the use of subconjunctival injections of potassium iodide be duly confirmed, we shall then have a further proof of the direct action upon the intraocular tissues, of substances which have been injected beneath the conjunctiva; for, until just recently, no means of obviating crystalline opacities of the lens had been discovered. Of these latter some have, indeed, been observed which disappeared by spontaneous resorption (recent traumatic cataracts, and sometimes even simple senile cataracts). Until lately, however, no one had succeeded in producing the resorption of the lenticular opacities by any kind of medical treatment.

Now that we are sufficiently well equipped for undertaking a thorough study of this subject, it is certain that we shall shortly arrive at a conclusive demonstration, either positive or negative. 1. As a matter of fact, we now possess a very simple means of seeing our own lenses, and of exhibiting them to intelligent patients, who are thereby enabled to perceive and to sketch any impurities or opacities which may be present in their own.[1] 2. We are able to introduce into the eye, subconjunctivally, any substance which we may consider capable of dissolving opacities of the lens.

As long ago as 1893 I had made attempts to clarify central opacities of the lens by means of 0.75 per cent. subconjunctival injections of sodium chloride, with fairly encouraging results. The vision was slightly improved, and the opacity appeared to be decreased. I kept the patient under observation during four years, without seeing the cataract become mature. But such a result was not sufficiently conclusive to justify the continuation of a method of treatment which, as a matter of fact, is rather complex, so I had given it up.

At the present day potassium iodide seems to be giving much more positive results. Dr. Verderau, of Madrid, has assured me that he has observed several cases of opacity of the lens which disappeared after a few subconjunctival injections of iodide of potassium. Should these facts be confirmed by a number of observers, who have taken care to sketch the conditions of the opacities of the lens before and after treatment, we shall then have an almost certain and conclusive proof of the resolvent action of potassium iodide, in subconjunctival injections, on opacities of the lens.

The question of the action of iodine on healthy or diseased ocular tissues, although not new, is none the less interesting. The late Professor Pflüger, of Berne, was the first to call attention to the excellent results obtainable by subconjunctival injections of trichloride of iodine in acute inflammatory processes, whilst for chronic affections he preferred iodide of sodium. Others have spoken in favour of iodurated injections and also of injections of iodate of soda, but none of the writers has specified the particular indications for the iodated injections.

Schiele [2] has recently extolled the iodate of soda (*natrium iodicum*), in 1 per mille. solutions for its analgesic and resolvent qualities. He states that he has succeeded in giving considerable relief in cases of iritis and glaucoma, and in bringing about a reduction of the tension. He concludes that in the ocular media there must be a formation of nascent iodine, which has a powerful action upon syphilitic, rheumatic, or tuberculous affections. But it would be unwise to dogmatize on the strength of such evidence, and further experience is necessary before the respective merits of, and the particular indications for, each iodized preparation can be properly established.

I can vouch for a case of almost absolute double glaucoma, in which a single subconjunctival injection of iodate of soda produced a rapid clarification of the cornea. The sight of the first eye had been lost a week previously, from expulsive hæmorrhage following iridectomy. An operation on the other eye was not to be thought of, and yet the patient could not see to walk about; also, neither eserine nor pilocarpine caused the pupil to contract. Dionine, as well as adrenaline, had produced nothing more than a temporary action: the cornea was already quite rough. I had given up all hope, when there occurred to me the idea of giving a subconjunctival injection of iodate of soda. The result was most surprising: on the following day the cornea had become quite transparent, the pupil was well contracted by the pilocarpine; the field of vision was notably enlarged; and the patient began to be able to walk about and to recognise his parents.

Similar cases of glaucoma, either cured or relieved by subconjunctival injections of sodium chloride, or of any other solution, have already been published. It is probable that it is the lymphagogic action of the substance injected which restores the equilibrium of tension. It would be very difficult to explain these facts by the theory of Wessely, who is of the opinion that the injection acts by producing a congestion of the ciliary processes, which causes a secretion of aqueous humour, and consequently would still further increase the intraocular tension.

The explanation of the phenomenon is, however, of minor importance, the essential point being that in subconjunctival injections we have found a new method of dealing with glaucomatous complications, in those cases where iridectomy is contra-indicated.

If we now wish to study the simplest indications for subconjunctival injections, we shall find them, first of all, in slight traumatic infections of the cornea and erosions of the epithelium, surrounded by a zone of grey infiltration.

In such cases dionine, by the afflux of lymph and leucocytes (anti-toxin or anti-bodies ?), which it induces, enables us to practice physiological antisepsis *par excellence*, and for the last few years I have never omitted instilling one or two drops of a five per cent. solution of dionine, besides prescribing the following collyria, in cases where the application of a dressing is not necessary :—

Dionine, 0.10
Cocaine Hydrochlor., 0.10
Solution of Mercury Cyanide, 1/1000, 10 gr.

S.—*One drop in the eye* 6 *to* 12 *times a day, according to the intensity of the infection.*

If the infection is arrested by the following day, the same treatment should be continued, but if the corneal infiltration progresses, one should not hesitate to have recourse to subconjunctival injections. At this juncture sodium chloride or iodate may be injected, or else diluted alcohol (15 c.c. of rectified spirit to 85 c.c. of distilled water).

The action of these three substances, when injected beneath the conjunctiva, is of the same lymphagogic order as the action of dionine ; only it is much more energetic and lasting, as Mellinger has demonstrated with sodium chloride. Peschel states [3] (and this coincides with my own experience) that alcohol has a very marked action on the sanguineous and lymphatic circulation of the eye, provoking a much more effective *Lymphuberschwemmung* than that produced by the instillations of dionine, and one therefore capable of producing a rapid resorption of the inflammatory exudations of the ocular membranes or of the optic nerve.

I supplement the action of the alcohol which has been subconjunctivally injected by an occlusive dressing[4] of pure alcohol, the latter being applied on a piece of wadding sufficiently large to cover the whole of the orbital region; a gutta-percha cap is then applied to prevent evaporation, and, in addition, a dressing of wadding is superimposed in order to maintain a durable warmth which promotes the sanguineous and lymphatic circulation, this being the best means of enabling the organism to resist infection. At first this dressing causes considerable smarting, followed by a sensation of warmth and comfort, which is probably due to the analgesic action of the spirits of wine.

The great advantage of injections of and dressings with alcohol is that they may be frequently repeated, as they cause very little pain, whichever of these methods of application be followed, and, when the alcohol is injected sub-conjunctivally, it is so readily resorbed that it leaves very little trace, whilst a modicum of cocaine or stovaïne renders the injection quite painless. The possibility of injecting alcohol subconjunctivally will enable us to introduce substances which are insoluble in water.

Subconjunctival injections of iodoformized ether have already been practised, but they are very painful.

The lymphagogic action of injections of sodium chloride or iodate or of alcohol is not the only property which they possess; for the two last-named are certainly antiseptic, and there is good evidence of their curative value in corneal infections, the infectious infiltration often disappearing after one, two, or three injections.

Such is the treatment which we recommend for slight infections of the cornea. But in cases where the infection is more serious, more virulent (especially with regard to pneumococcus and streptococcus) recourse should be had to copious injections of mercury cyanide, 1 in 2,000, which should be given repeatedly until the pain is subdued. In serious cases of this kind there should be no hesitation as to combining with the treatment galvano-cauterisations and serum-therapeutics. We have already mentioned several curious facts with regard to this.[5] Not having been able to procure any anti-pneumococcus serum, it occurred to us to try *injections of anti-diphtheritic serum*, and the results were most encouraging; a certain infectious ulcer which proved obstinate when treated with subconjunctival injections, paracentesis, and the galvano-cautery, was immediately checked by two or three injections of the Roux serum. The doses to inject are 15 to 20 c.c. at each operation, *i.e.*, 15,000 to 20,000 of von Behring's antitoxic units. Dr. Talamon has been in the habit of injecting the latter quantity during the last four years for the treatment of pneumonia, and he considers that this system of serum-therapeutics is superior to any other. The same result might possibly be obtained by injections of artificial serum, or of collargol, for it is scarcely logical to suppose that the anti-diphtheric serum contains anti-toxins and anti-bodies which are specifics against the pneumococcus. Yet no one knows what further revelations are in store for us. Has not empiricism already brought to light many medications whose *raison d'être* was not based on any scientific notion, as witness the use of quinine for malaria and of mercury for syphilis.

I have already related several observations (5) of purulent pseudo-membranous conjunctivitis which I have succeeded in curing by injections of Roux's serum. At the present time I can mention five cases of serious infectious ulcers which have been cured by the same means; in one case only the cornea was entirely destroyed, because the injections were stopped too soon in presence of an apparently rapid cure.

REFERENCES.

(1) *Vide* Darier "On the possibility of seeing one's own lens."—*Bulletin de la Société française d'Ophtalmologie*, Paris, 1894.

(2) *Wochenschr. f. Ther. u. Hygiene des Auges*, 1903.

(3) *Klinische Monatsblätter f. Augenheilk.*, Dezember, 1903.

(4) The ocular dressing with alcohol was first recommended by Schiele (*Wochenschr. f. Ther. u. Hygiene des Auges*) for panophthalmitis.

(5) *La Clinique Ophtalmologique*, mars, 1904.

(To be concluded.)

OLD AND NEW REMEDIES AND METHODS IN OPHTHALMIC WORK.*

BY

J. ACWORTH MENZIES, M.D.,

of Rochdale, Lancashire.

No organ presents better opportunities for observing the results of treatment than the eye. It is subject to the same pathological processes as the other organs of the body, and shows them in as diverse ways—the lids present disease of skin, hair, glands, and cellular tissue; the lacrymal passages disease of mucous membrane and of bone; the muscles may be paralysed or deformed; the conjunctiva is subject to the same diseases as other mucous membranes; the sclera to those of fibrous structures, such as the ligaments in joints; the choroid and iris share the misfortunes of vascular structures elsewhere; and, lastly, the optic nerve and retina suffer from the morbid changes to which the general nervous system is liable. Perhaps we never realise the morbid processes comprised in the word "rheumatism," their reality, their chronicity, and their obstinate resistance to our ordinary methods of treatment, so much as when we are requested by a hasty patient to cure out-of-hand a case of episcleritis. Here we have the disease as it occurs in fibrous tissues, visible to any one, with its apparent simplicity, its persistence, and its aggravating habit of attacking a fresh spot just when we are congratulating ourselves that cure is in sight. Albuminuric retinitis, too, brings home to us the degeneration of blood vessels, with the resulting hæmorrhages, and the inflammatory exudations which no doubt are present in many other parts of the body in Bright's disease. And just as the processes of disease can be studied with accuracy in the eye, so also can we follow the results of our treatment with the greatest advantage. It thus comes about that treatment is more definite and prognosis easier in the great majority of eye cases than in disease of a concealed organ.

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* Read before the Rochdale and District Medical Society, March 3rd, 1904

I propose to take up some of the *materia medica* used at present in ophthalmic work, and to discuss their uses.

A bygone generation of medical practitioners depended chiefly, in their treatment of eye diseases, on three things, silver nitrate, belladonna, and mercury. To-day, in spite of the array of remedies with which organic chemistry has provided us, we could ill afford to do without these three.

Silver Nitrate.—Darier† says, with justice, that a garland should be woven for the man who introduced silver nitrate into eye work. Properly used it is still one of the most effective local applications we possess in certain cases, and most of all in the three grades of conjunctivitis—the simple form, ophthalmia in infants, and the gonorrhœal variety. It is necessary to be careful as to the strength of the solution, the way in which it is used, the frequency of its application, and, finally, one must know when to stop. Generally speaking, a 2 per cent. solution is the most useful, and it must be applied with a brush to the everted lid, with especial care to reach the remotest folds. The surplus should be washed off with an abundance of tap-water. In simple catarrhal conjunctivitis, which does not yield to alum or zinc sulphate, one application of silver is usually sufficient, along with the other treatment, to cure the case. In ordinary ophthalmia in infants daily applications are necessary until the purulent discharge is markedly diminished and the baby can keep the eye open. In gonorrhœal cases in infants or adults it may be necessary to use the silver twice daily. If the applications are long continued or too strong, the mucous membrane becomes dry, and a viscid, yellow discharge is produced.

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† *Ocular Therapeutics*, translated by Sydney Stephenson, 1903. London: J. and A. Churchill.

There is one other condition in which I have found silver nitrate of great service—that is in a type of corneal ulcer not adequately described in the text-books. This begins as a kind of phlyctenule at the margin of the cornea and progresses slowly across the cornea until it reaches the opposite margin, taking some six months or so, as a rule, for the journey. The result is a nebula, which makes the sight of the eye very deficient. I have never failed to check the progress of this ulcer by an application of mitigated caustic to the growing point. The actual cautery may be used, but is more terrifying to the patient and cannot be more effectual. In ordinary phlyctenular disease yellow oxide of mercury ointment is an absolute specific, and silver is quite unnecessary.

What are the modern substitutes for *silver nitrate?* Their name is legion. Leaving out of account the various simple lotions, such as boric acid, and the salts of zinc, lead, and copper, there are many organic salts of silver now on the market—actol (lactate of silver), argentamine (phosphate or nitrate of silver in ethylene-diamine), argonine (silver combined with casein), itrol (the citrate), nargol (nucleinate), protargol (compound with protein), albargin (compound with gelatose), and the sulphophenate.

Of these argentamine and protargol seem to be the only two which seriously threaten the pre-eminence of silver nitrate, and of these protargol is the more efficient. It is not, of course, so strong as the nitrate, but it possesses three great advantages—it is much less painful, has greater penetrative power, and is less dangerous.

I have used protargol very extensively, but in really serious cases have not dared, as a rule, to depart from what I knew to be efficient—the old-fashioned nitrate. In one severe case of gonorrhœal ophthalmia lately the nitrate was out of the question, because the cornea was perforated when I first saw the patient, and it would have been highly dangerous to attempt to evert the upper lid. In that case instillation of 20 per cent. protargol once daily, along with drops of 5 per cent., used by the patient himself every few hours, brought about a rapid cure. I have little doubt that protargol would be equally efficient in ordinary ophthalmia in infants, but so far I have found silver nitrate infallible, and I hesitate to risk a change. It seems tolerably certain, however, that protargol is destined to replace silver nitrate almost entirely in eye work.

Atropine.—Coming now to the second of the three old remedies, belladonna, or its active principle, atropine, generally speaking, there is only one indication for its use, *viz.*, the danger of adhesions of the iris to the lens. In other words, atropine should be used only in iritis, or where there is danger of iritis, as in deep ulceration of the cornea.‡

There are many modern products which may be used instead of atropine—duboisin, scopolamine (hyoscine), homatropine, euphthalmine, ephedrine, etc., and each of these has its own field of use, but to enter into these would lead me too far in the present paper, and it is sufficient to say that for ordinary work the supremacy of atropine is unchallenged.

Before passing to the consideration of mercury, I should like to say a little about two modern products, namely, the extract of suprarenal gland and dionine.

Suprarenal extract is used chiefly in the form of its active principle—adrenalin, or, rather, in the form of the hydrochloride of that substance. Its one outstanding property is its power of causing constriction of the small arteries, constriction so marked as to block the lumen of these vessels altogether, and so to arrest the circulation. Hence it is used to arrest or to prevent hæmorrhage and to reduce congestion. With its use in arresting bleeding we are not now concerned. As regards its use for preventing hæmorrhage, it is extensively employed in operations on the eye, but it is becoming recognised that its action is not an unmixed blessing. Its effects last necessarily for a limited time, and it is more than annoying to find, after an operation for cataract or glaucoma, when the first dressing is made two days later, that the patient is temporarily blind, owing to the anterior chamber being full of blood. The relaxing blood-vessels, as the adrenalin effect passes off, bleed into the anterior chamber, and, the wound being closed by lymph, the blood must remain there until it is slowly absorbed. My own impression is that there is only one eye operation where adrenalin is of real value, namely, the advancement of a rectus tendon. There the absence of blood enables the tendon to be adjusted in its new position more exactly, and subsequent slight hæmorrhage does not matter.

With regard to its vaunted use in conjunctivitis, one must admit at once that it produces a very pretty effect, an effect that to the untrained mind of the patient is both astonishing and satisfactory. But what part does congestion play in an ordinary conjunctivitis ? There is a cause for the inflammation—mechanical, as a foreign body, or chemical, as germ-products. The congestion is Nature's attempt to remove the cause of the mischief by a free flushing with blood and lymph. To use adrenalin in such a case, without at the same time attacking the cause, is to thwart Nature's attempt at cure without introducing an alternative attempt. The blanching of the conjunctiva is an altogether fictitious advantage. There may be cases of simple hyperæmia where the drug would be of value, but I am rather sceptical as to their existence, and I think it is far more rational to attack causes than symptoms. The use of adrenalin in such a case is, therefore, a confession of helpless ignorance.

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‡ Of course, I am leaving the physiological use in refraction cases out of account.

Dionine.—This is a substance which promises to be of much value in eye diseases. It is the hydrochloride of ethyl morphine, and, I daresay, is being used in general medicine pretty largely. It is said to be a valuable substitute for morphine, having an insignificant action on the digestive tract, and combating pulmonary irritation, while facilitating expectoration. It is also said to produce peaceful sleep in cases of cerebral excitement. On these matters I can offer no opinion. Wolffberg introduced it into the field of ophthalmic work, and certainly its action is remarkable. Its first and obvious effect is to produce a marked chemosis (not, however, in absolutely healthy persons), the blood vessels are dilated, and the lymphatics enormously distended, so that the cornea appears sunk in the middle of the swollen conjunctiva. If a strong solution (5 p.c.) is used, the lids, also, may become swollen and tense. At the same time, although it has no marked anæsthetic action, it is a powerful analgesic, and banishes the pain of acute glaucoma or iritis, not for a minute only, but for, it may be, twenty-four hours. It is said even to cure an attack of acute glaucoma for the time being, and one can readily believe that to be the case, for, as glaucoma is probably due to blocking of the drains of the eye-ball, the free dilatation of the blood and lymph-channels, and consequent flushing of these, may clear away obstructions, and so cure the disease. Another advantage of this increased flow is, that absorption of morbid products is hastened, *e.g.*, in a case of subconjunctival hæmorrhage, after the use of dionine, the fluid in the swollen lymphatics can be seen to be blood-stained, and the effused blood disappears more rapidly than it could otherwise be expected to do.

Further, dionine is said to aid the action of eserine or atropine. So far, I have only used the drug in combination with atropine, or occasionally alone, in cases of keratitis, and I am convinced that these cases do better than with atropine alone or atropine and cocaine.

It seems to me that the effect of dionine is to facilitate cure on Nature's own lines, whereas adrenalin acts in just the opposite way.

I should add that tolerance to dionine is soon established, so that it can be used at least in 1 p.c. solutions, without marked chemosis being produced. It is better in, *e.g.*, a case of keratitis, to use dionine and atropine for a few days, then atropine alone, then dionine again, and so on.

Mercury.—The third of the old remedies to which I have referred is mercury. It is unnecessary for me to emphasise the value of this drug, not only in syphilitic but in other diseases in which no syphilitic taint can be traced. It is of use in ophthalmic work, chiefly in connection with those vascular structures, the iris, ciliary processes, and choroid ; and in iritis, cyclitis, and choroiditis, we should be hard put to it indeed to find an efficient substitute for mercury.

But if the modern investigator cannot find something new, he can at least hit upon a new way of using the old, and so we have passed through the various stages of administration of mercury by the mouth, by inunction, by vapour, by intramuscular injection, by intravenous injection, until now we are being told that to get the full benefit of mercury in, say, a case of choroiditis, we must inject the drug under the conjunctiva. That is found to be a very painful process, so the modern investigator has unearthed a substance, alkyloxyphenylguanidine, or, more shortly, acoine* which, although it has no local anæsthetic action on the human cornea, is said to render hypodermic or subconjunctival injections almost painless.

Personally, I must confess to a preference for the old-fashioned method of administration, unless the evidence in favour of injections is of the strongest description. And, so far, it does not seem to me to be convincing. Sir Douglas Maclagan once gave me a piece of advice which I have not forgotten. I had said that part of the treatment of belladonna poisoning was a hypodermic injection of morphia, "Why a hypodermic" he said, "there's no hurry? Remember the natural channels. There is far too great a tendency on the part of the young medicine of the present day to rush to the hypodermic needle." An old-fashioned sentiment perhaps, but the fruit of a very long life's experience. And in these cases of iritis and the like, for which mercury is given, it is more than probable that what we see in the eye is only an indication of what exists in many unseen similar structures, such as the choroid plexuses, and, if that is so, the reason for concentrating one's treatment on the eye becomes much less strong.

Further, there is no doubt that subconjunctival injections will be somewhat terrifying to our patients, even if they can be

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*Darier, *loc. cit.*

made painlessly; and partly for that reason, and partly because of the expense of having every dose of medicine administered by the doctor, it seems to me to be impracticable to adopt such measures as a regular thing.

There are cases where such a mode of administration would be justifiable and even advisable. In an eye going rapidly to the bad with sympathetic disease or with an infective ulcer, in which our experience tells us ordinary treatment will almost certainly be unsuccessful, then I think we should try the subconjunctival injection of cyanide of mercury.

One thing which makes me doubtful as to the advantage of administering mercury by this method is that all the advantages claimed for it have been claimed with equal assurance for similar injections of sodium chloride. On the whole, it seems to me to be prudent to wait for more information from those whose patients are apparently willing subjects for experiment.

DISLOCATION OF THE EYEBALL IN A PUG DOG.

BY

SIMEON SNELL, F.R.C.S., Ed.

OPHTHALMIC SURGEON, ROYAL INFIRMARY, SHEFFIELD; PROFESSOR OF OPHTHALMOLOGY, UNIVERSITY COLLEGE, SHEFFIELD.

ONE evening in June last year (1903) a medical friend brought his female pug to me, in consequence of an injury it had sustained to the left eye. It appeared that the dog had been playing with a large collie. The latter, although a male, appeared morose, and not overwilling to make friends with the little pug. Presently the owner of the large dog held his head as the pug approached it. For a moment the two dogs were nose to nose, when suddenly the big one, uttering a low growl, plunged his head forwards. The collie raised his lips, but whether he opened his mouth is uncertain. My friend could plainly see him strike the face of his pug with his snout. The next instant the little dog retreated into the house yelping, and it was discovered that the eyeball protruded and was completely uncovered by the lids, which were out of sight away back in the orbit behind the globe. My friend endeavoured to push the globe back, but found this was impossible; neither could he draw the lids forward over the globe. The parts were becoming swollen, and he therefore brought his dog to me. Only a few minutes had elapsed between the time of the accident and my seeing the animal.

I found the condition just as my friend described it. The eyeball was protruded and both eyelids were pressed back beyond the equator of the globe, leaving the eyeball uncovered. The lids were somewhat swollen. The animal was placed under chloroform ; a careful examination was then made, and it was found that the eyeball and its muscles were uninjured. A squint hook was passed first under the upper lid, and by this means the lid was gently drawn towards and slipped over the globe. A similar procedure was adopted with the lower eyelid and the eyeball, and the eyelids then resumed a perfectly normal appearance. After the operation the eye remained half-closed for a few days, but in a little over a week it had so completely recovered that it was impossible to tell which eye had been injured.

Remarks.—It is not easy to explain how the condition was brought about in this case. The skin of pugs, as a rule, is exceedingly loosely attached to the subjacent tissues, and can be caught up in large folds and wrinkles. The lids can be drawn back from off the prominent eyes a fair distance until the white sclerotic is distinct above and below. The lids, unless undue force is exercised, cannot, however, be pushed back to any great extent, and certainly not beyond the equator of the globe. No signs of tooth marks were noted. It seems possible that the front of the gums of the slightly open mouth of the large dog (for, being an old animal, several of the front teeth were missing) engaged the upper and lower eyelids in their grip and pushed them back behind the globe.

Instances in which an eye has been completely dislocated forwards are rare. Until last year no such cases had been recorded in the *Transactions* of the Ophthalmological Society. In the volume of the Society for that year (1903), however, Baldwin relates a case occurring in a woman, aged 40 years, who struck her eye against the globe-holder of a gas-bracket. As a result, the left eye was advanced forwards out of the orbit in front of the eyelids. The dislocated globe was reduced by gentle taxis, and the patient made a good recovery.

In the same volume, J. B. Lawford mentions that a boy, aged seven years, had fallen, striking his face against an iron fender. The left eyeball was found to be completely dislocated forwards, the globe resting on the cutaneous surface of the eyelids, which were depressed, so that the eyelashes could not be seen. The tendons of the recti muscles could be plainly observed, stretched beneath the conjunctiva. Under chloroform, reduction of the displaced eyeball was easily effected by lifting the edge of the upper eyelid forwards with a squint hook, and at the same time pressing the globe backwards. Perfect recovery took place. Lawford states: "In the *Beitrage zur Augenheilkunde*. Bd. 'Die Luxatis Bulbi,' iv, Heft 31, 1899, Rothenpieler published an article on Luxatio Bulbi,' and gave a list of references, dating from the sixteenth century. In the same year (1899) three cases of dislocation of the eyeball were reported at a meeting of the College of Physicians of Philadelphia (see *Ophthalmic Review*, vol. xviii.)"

Mr. W. M. Beaumont, of Bath, placed on record some years ago a case of an infant in whom the eyeball was dislocated forwards, forceps having been used at birth.

I have not myself met with a case in the human race, but I think, considering the rarity of the accident, that the instance here recorded, in which the eyeball of a pug dog was completely dislocated forwards, is worthy of being published. In the *Transactions* of the Ophthalmological Society last year, I mentioned a case of a baby whose eyeball had been completely avulsed and was lying outside the orbit, with the optic nerve severed and held only by loose connective tissue attachments. The accident had resulted from the use of forceps at birth.

CLINICAL, PATHOLOGICAL, AND THERAPEUTICAL MEMORANDA.

DIABETES AND CATARACT EXTRACTION.

BY

ROBERT W. DOYNE, M.A., F.R.C.S.,

READER IN OPHTHALMOLOGY IN THE UNIVERSITY OF OXFORD,
ETC., ETC.

The following case may be of some clinical interest to the readers of the OPHTHALMOSCOPE :—

A male patient, aged 77 years, who suffered from diabetes mellitus, having had a preliminary iridectomy performed two years previously, underwent extraction of cataract on September 14th, 1904, and died from diabetic coma thirteen days later. Three days after the extraction he became rather drowsy, and gradually got worse. Notwithstanding this, the eye that had been operated upon made a perfectly uninterrupted recovery, and the notes on the day of his death state that the "wound was soundly healed and the eye was quiet."

CONGENITAL OPACITIES OF THE CORNEA.

BY

C. DEVEREUX MARSHALL, F.R.C.S.

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Congenital opacities of the cornea are not so very frequently seen, and their origin is involved in some obscurity. The case here recorded is that of a male Jew baby, aged 6 weeks, who was brought for treatment to the Royal London Ophthalmic Hospital. The condition was as follows: the right cornea was opaque, and beginning to become staphylomatous. The left cornea was likewise opaque but was not bulging; it was so dense that the iris could only just be made out on one side. There was no evidence of perforation.

The history was definite. There never had been any discharge whatever from the lids, nor had the eyes been treated in any way since the child was born, which even at that time were exactly as they are at the present time, no change whatever having been noticed in their appearance since then.

Remarks.—The case exactly resembled the later stage of ophthalmia neonatorum, but the history at once disproved this, and if further evidence were wanted, it would be found in the fact that although the child was but 6 weeks old, there was no sign whatever of discharge from the eyes, nor did it appear there ever had been any. It is also difficult to imagine that an eye suffering from ophthalmia neonatorum would in so short a time clear up without treatment. The condition of the right eye was such as to warrant the hope that an iridectomy might be done later with some improvement to vision, although obviously much could not be expected with the corneæ opaque as these were.

The origin of this condition is probably intrauterine inflammation, leading both to faulty development of the eyes and also to destructive changes of the cornea itself.

All stages of congenital opacities are seen, some amounting to small maculæ only, while others lead to total destruction of the cornea as a clear refracting medium. I have never before seen greater changes present in a case of this nature, neither has it fallen to my lot, knowingly, to cut and to examine histologically any of these cases, although in the absence of a clear history, the changes would readily be taken for those resulting from ophthalmia neonatorum.

TENTH INTERNATIONAL CONGRESS OF OPHTHALMOLOGY.

THE MUSEUMS.

If a certain amount of confusion, as hinted in our last number, pervaded the business proceedings of the Ophthalmological Congress, it simply reigned supreme in the museums. There were two museums—the "scientific" and the "commercial." The former was lodged in a suite of three rooms on the first floor of the Kursaal, where the Congress met, while the latter occupied a large hall at the Pestalozzischule, situated a mile or so away. The museums were officially supposed to be open from 9.30 a.m. to 7 p.m., but. as a matter of fact, they were closed for two hours in the middle of the day, presumably in order to let those in immediate attendance get away to dinner. The executive of the Congress published no catalogue of the exhibits; comparatively few of the exhibitors, whether German, French, or English, could speak any tongue but their own; and in numerous instances catalogues and descriptive pamphlets were couched in one language alone. Finally, the distinction between the "scientific" and the "commercial" exhibits was not strictly observed, and perhaps in the very nature of things could not be.

We may glance briefly at the contents of each museum.

The Scientific Museum.—Mr. W. H. H. Jessop showed, for the Ophthalmological Society of the United Kingdom, a case of eye instruments formerly belonging to an Indian oculist, or "süttiah," and presented to the Society in 1895 by Surgeon-Captain H. E. Drake-Brockman. Mr. Jessop himself exhibited a collection of interesting old eye instruments, early ophthalmoscopes, and so forth. Dr. Hummelsheim showed aseptic eye-drop bottles, for a picture and description of which see p. 534 of the present number of THE OPHTHALMOSCOPE. Dr. Rothenaicher, of Passau, showed an ingenious revolving test-type. Professor Axenfeld had numerous diagrams of bacteria suspended from the walls of one room. Dr. Joseph, Paris, exhibited a formidable-looking neurotome and a hook for the purpose of dividing the optic nerve far back in tumours and in sympathetic ophthalmitis. He also showed a specimen in which the nerve had been cut 21 mm. behind the eyeball by these means. Professor C. Reymond, of Turin, had a photometer on view. Bécheraz & Co., of Bern, showed the aseptic drop-bottle represented in the accompanying figures. An ordinary bottle is provided with lateral branch, coming off just below the mouth. In the under part of the branch is a small hole, protected, when the bottle is not in use, by a rubber dam and clip (fig. I).

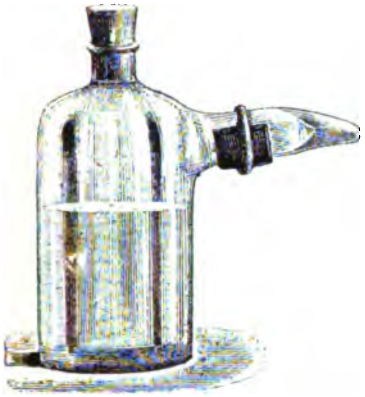


Fig. I

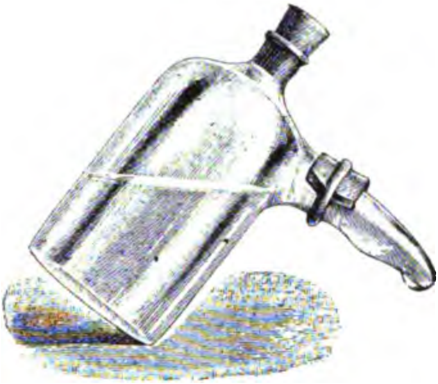
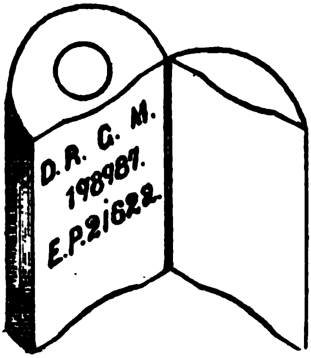


Fig. II

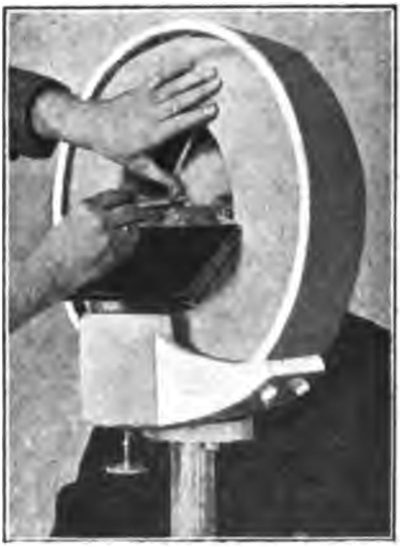
To use the bottle, the dam is turned upwards (fig. II), and the flask is tipped on one side. The contents of the *Tropfflasche* can, of course, be boiled. Mr. John Trotter, of Gordon Street, Glasgow, showed (*a*) Ramsey's eye magnet; (*b*) Ramsey's spectroscopic colour test; and (*c*) Ramsey's modification of Worth's amblyoscope, the main points of which were a readily modified illumination, and an abolition of double images by the employment of total reflecting prisms instead of mirrors, as in the original appliance. This instrument attracted no little attention, and more will probably be heard of it in the future. Professor Motais, of Angers, exhibited excellent dry and wet anatomical preparations to illustrate his theory of the venous transmission of infection from one eye to the other (*see* p. 540 of the present issue). An original Anel's syringe, constructed of ivory, was shown by Professor Albertotti, of Modena. Mr. G. Lindsay Johnson, of London, was very much in evidence with numerous exhibits, which included ophthalmoscopic drawings of the fundi of the lower animals and of the macula lutea of man, some curious optical delusions, a macular chromoscope, instruments for treating trachoma by scarification and electrolysis, and some other minor exhibits. Dr. Halben, of Greifswald, exhibited dry, macroscopic specimens of the eyeball, fixed in celloidin. After soaking in celloidin, etc., the specimens are hardened in chloroform, clarified in oil of cedar, then cut, and, finally, varnished. They are mounted in small cases, and pivoted, so that they may be readily inspected. Axenfeld showed a handsome collection of cultures of the micro-organisms commonly met with in eye work. Dr. Gonin, of Lausanne, exhibited one hundred jelly specimens of eyeballs, and an atlas of fundus conditions, beautifully executed upon Haab's plates of superimposed colour.

Dr. Siegrist, Bern, had on view fourteen specimens of eyes preserved in oblong glass jars containing 2 per cent. formol. His method resembles that of Greeff, except that the specimen, instead of being cemented to the side of the jar, is kept in position by threads attached to a glass plate inside the receptacle. Dr. Schanz, Dresden, showed his new "sight" fitted to a rifle. Professor Kuhnt exhibited several new and very strange-looking eye instruments. An apparatus of primitive design for administering ethyl chloride was shown and demonstrated by Hermann Nieriker, of Zurich. This essentially consisted of several folds of thick material capable of being folded over the mouth and nose and kept in place by a wire framework. He also showed a metallic reservoir filled with ethyl chloride, from which the small tube used in anæsthesia may be replenished, at once a convenience and an economy to the anæsthetist. These appliances can be obtained from the Chemical Society, Brugg, Switzerland. Dr. C. A. Oliver, of Philadelphia, showed his perfected test-types, coloured wools, and so forth. Dr. Alvarado, Valladolid, was represented by his monograph (*see* THE OPHTHALMOSCOPE, November, p. 488) on ophthalmia neonatorum. Hallauer, Basle, exhibited curious old engravings of subjects likely to be of interest to ophthalmic surgeons. Delzoppo and Schweissinger showed pharmaceutical preparations. Dr. Vitalli, Bari, exhibited his capsular forceps, an account of which will be found on p. 525 of the present number. Dr. Maxwell, Dublin, showed an instrument for advancement, the construction of which did not appear to reflect much credit on the mechanicians of the British Isles. Dr. S. Holth, of Christiania, showed several tubes of the colours recommended by him (see page 531) for tattooing the cornea. Coulomb, Paris, had an interesting exhibition of artificial eyes, ancient and modern. They were made of the most varied material, as lead, silver, horn, wood, glass, enamel, ivory, and porcelain. An artificial eye from an Egyptian mummy, thousands of years old, jostled the reform eyes introduced only the other day. Dr. Lucien Howe (Buffalo) demonstrated his apparatus for recording photographically the movements of the eye. Dr. Wieden, of Valencia, showed a combined douche and lid-elevator, which presented no novel features. Dr. von Pfluck, of Dresden, had an ingenious hot water irrigator, which promises to be of practical use in eye work. Dr. R. Gagzow, of Lubeck, exhibited a

Bindenwickler, *i.e.*, a small hinged wooden cylinder, hollowed at the ends, as shown in the figure, to facilitate the winding and the application of bandages. The contrivance seemed to have some little practical value. Pfister and Streit and Meyrowitz exhibited ophthalmometers.

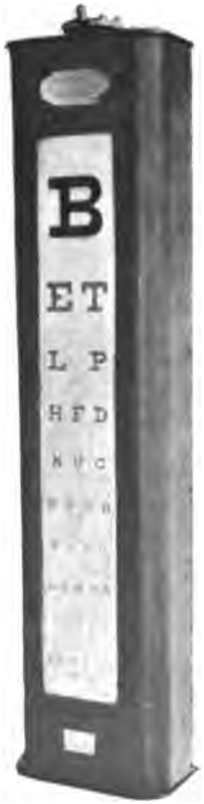


An apparatus that attracted much attention from the members of the Congress was an improved form of magnet, the so-called *Innenpol-Magnet*, constructed by Klingelfuss and Co., Petersgasse, Basle. Contrary to all previous designs, the core of the magnet is placed outside the magnet-winding, the aperture of which is so large that the head of the patient can be placed in it. Suitably shaped iron instruments are employed to loosen and to extract splinters from the eye. The magnetic leakage is said to be minimal in this instrument, the price of which complete is £22 or $110. The appended figure will give a notion of how the magnet is employed. It may be added that there were on show several foreign bodies removed from the eye at the Basler Universitäts-Augenklinik by the aid of the *Innenpol-Magnet*.



Professor Dimmer, of Gratz, showed twenty beautiful photographs of the fundus oculi, normal and abnormal. The photographs were so good as to allow one to recognise, literally at a glance, the conditions they depicted. The apparatus* by which these extraordinary photographs were taken was also on view. It is, unfortunately, almost as big as a grand piano, and is stated to be correspondingly expensive. Dr. Walter Thorner, of Berlin, also showed photographs of the fundus oculi, but for beauty and detail they could not be compared with those of Professor Dimmer. Dr. Leon Ascher, of Bern, exhibited a new apparatus for mixing colour, a brief account of which will be found on page 532.

The dark room contained, among other things, Leitz's projection apparatus, instruments for detecting colour-blindness, Thorner's new fixed ophthalmoscope, and Haab's newer eye magnet.



The Commercial Museum.—The spacious and well-lighted hall of the Pestalozzischule contained the exhibits of several important firms. Instruments were shown by Walb (Heidelberg), Schædel (Leipsig), Schwarz (Vienna), Hausmann (St. Gallen), Schaerer (Bern); aseptic furniture and fixings by Moria (Paris), Heinz (Basle); ophthalmoscopes, optometers, test-cases, and optical instruments by Gebrüder Bischhausen, Fritsch (Vienna), and Meyrowitz (New York); artificial eyes and models of diseased eyes by E. Greiner (Geneva); and some of the newer eye remedies by von Heyden (Radebeul). J. Cornet of Paris, exhibited an ingenious but extremely simple perimeter, weighing only 800 grammes, and costing 60 francs. It may be best described as a portable and folding perimeter. The same house also showed Professor de Lapersonne's *échelles optométriques*—that is to say, a long rectangular box, one side of which was missing. Different types were made to appear in the aperture by a simple mechanism, the essential feature of which were two rollers enclosed within the apparatus. The cost of the appliance, shown in the figure, amounts to 120 francs.

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* An account of Professor Dimmer's apparatus, together with a reproduction of some of his photographs, will appear in an early number of The Ophthalmoscope.—Editors.

The attendance in the commercial museum (which we visited more than once) struck us as poor, and we heard several complaints as to the inaccessibility of the hall and the slackness of the general arrangements.

CURRENT LITERATURE.

NOTE.—Communications of which the titles only are given either contain nothing new or else do not lend themselves to abstract.

I.—BACTERIOLOGY.

(1) **Bossalino.**—Some bacteriological investigations upon the conjunctival sac of patients operated upon for cataract. (Alcune ricerche batteriologiche sulla congiuntiva degli operati di cataratta.) *Annali di Ottalmologia*, Vol. XXXIII, Fasc. 3-4, p. 207.

(2) **McDill and Wherry.**—The Koch-Weeks' Bacillus. *Reports from Government Biological Laboratory of Manila*, No. 10, 1903, and *British Medical Journal*, 23rd April, 1904.

(3) **Baginsky, A.**—Gonorrhœal disease in children. *Archiv f. Kinderheilkunde*, Vol. XXXVI. (1903), p. 169, and *Archives of Pediatrics*, January, 1904.

(4) **Nedden, zur.**—Mueller's Trachoma bacillus and conjunctivitis produced by Influenza bacillus. (Ueber den Müllerschen Trachombazillus und die Influenzabazillenkonjunktivitis.) *Klin. Monatsbl. f. Augenheilkunde*, Januar, 1904, p. 47.

(5) **McNab, A.**—On the "Diplobacillus liquefaciens (Petit)" and on its connection with the Morax-Axenfeld Diplobacillus of Blepharoconjunctivitis. (Ueber den "Diplobacillus liquefaciens (Petit)" und über sein Verhältnis zu dem Morax-Axenfeldschen Diplobazillus der Blepharokonjunktivitis.) *Klin. Monatsbl. f. Augenheilkunde*, Januar, 1904, p. 54.

(6) **McNab, A.**—On infection of the cornea by Bacillus Pyocyaneus. (Ueber Infektion der Kornea durch den Bazillus Pyocyaneus.) *Klin. Monatsbl. f. Augenheilkunde*, Januar 1904, p. 70.

(7) **Le Gendre, P., and Morax, V.**—Endogenous pneumococcic infection of the Eye. *Bull. de la Société Méd. des Hôpitaux*, 29 avril, 1904.

(8) **Johnston, Richard H.**—The bacteriology of panophthalmitis. *Medical News*, 20th August, 1904.

(1) **Bossalino** concludes that the conjunctiva can be rendered aseptic only with difficulty; that micrococci are the micro-organisms usually found in the eyes of those who have been operated upon; that the microbes may be harmless, not on account of an exalted resistance of the tissues of the eye, but simply because they lack virulence; and, lastly, that the microbes may regain their virulence under favourable conditions, and thereby become pathogenic for the eye as for any other organ.

A. ANTONELLI.

(2) **McDill** and **Wherry** describe two cases of acute suppuration of the hand due to an infective organism which was found to exhibit the cultural characters of the Koch-Weeks' bacillus or bacillus conjunctivitidis. The first case was that of a hospital surgeon who had previously been treating some cases of acute suppurating conjunctivitis, and had also operated on a case of leg infection which ended in septicæmia. The second case occurred in a nurse who lanced the doctor's hand and pricked her own finger during the operation. The clinical symptoms were severe in both cases, and the nurse's finger required amputation owing to the incidence of gangrene. Great difficulty was found in obtaining the first culture, as the organism would not grow upon ordinary media; but at length success was obtained with ascitic fluid agar. It was then subcultured with ease upon ordinary media. From its similarity of behaviour upon culture media, its staining reactions, and its morphological characters, the authors believe that the organism is identical with or closely allied to the Koch-Weeks' bacillus.

(3) A newly-born male infant had a very mild ophthalmia. The cord fell off on the tenth day, but the umbilicus remained red and discharged some pus. There was one small ulcer on the right side of the roof of the mouth. The skin covering the penis was red and œdematous, and a small ulcer, covered with pus, was present on the upper side of the prepuce. The inguinal glands were swollen. The skin around the umbilicus was reddened, the inflammation reaching to the axillary line above and to three finger breadths from the navel below. Typical gonococci were found in the pus from the umbilicus and from the penis. Staphylococci and pneumococci were also present. The ulcer in the mouth was a simple one, and not of gonorrhœal origin. The child recovered perfectly. No similar case of gonorrhœal umbilical infection has been reported. Attention is drawn to the possibility of infection by means of the hands, dressings, or instruments used by the midwife or nurse.

(4) **Mueller** has advanced the theory that the influenza bacillus which **zur Nedden** had shown to be present in conjunctival secretions was identical with his trachoma bacillus, and that zur Nedden's cases were instances of genuine trachoma. Zur Nedden emphatically refutes this view, and maintains that there was certainly no question of trachoma in his cases. He holds that the " trachoma bacillus " of Mueller is the influenza bacillus, and is not the exciting cause of trachoma. In all cases of conjunctivitis granulosa, zur Nedden himself has been unable to obtain cultures of anything but saprophytes (staphylococci, xerosis bacilli, sarcinæ) from the conjunctival secretion or from contents of the follicles.

A. BIRCH-HIRSCHFELD.

(5) In 1898 Petit found in three cases of hypopyon-keratitis a bacillus which, unlike the Morax-Axenfeld diplobacillus, is easily grown on any nutrient medium, and liquifies gelatine. By long-continued cultivation of both kinds of bacillus on various media, **McNab** has established an accurate comparison between them. He comes to the conclusion that Petit's bacillus differs from the Morax-Axenfeld diplobacillus in its power of liquifying gelatine, growth on gelatine, potato, and sugar-agar, in the fewness of variations of form which it presents during its development, and in pathogenesis in the eye of the rabbit, where it sets up a slight hypopyon-keratitis in the first generations.

In a note appended to the above paper, Axenfeld remarks that we " must for the present acknowledge the remarkable fact that this extremely common bacterium (Morax-Axenfeld diplobacillus) has a pathogenic effect only in the conjunctival sac, and has been met with nowhere else."

A. BIRCH-HIRSCHFELD.

(6) **McNab** obtained a culture of bacillus pyocyaneus from the cornea of a woman of 40 years, who suffered from an extensive ulcer with deeply-infiltrated margins. The ulcer healed after recourse to Saemisch's operation. Inoculation of the cornea of the rabbit led to severe panophthalmitis. Up to the present there are three cases of corneal infection through bacillus pyocyaneus on record, *viz.*, two of Sattler's and one of Bietti's. It was particularly striking in these cases, that severe toxic disturbances emanating from the cornea gave rise to all the appearances of panophthalmitis before any suppurative infiltration of the deeper-lying portions of the vitreous body were observable. Possibly there is also a slighter form of the disease. In severe cases McNab recommends extensive cutting (Saemisch's method).

A. BIRCH-HIRSCHFELD.

(7) **Le Gendre** and **Morax** report a case of suppurative infection, which they regard as due to the pneumococcus having been conveyed to the eye by the blood-stream. The essential facts are as follow: a woman, 47 years of age, became delirious, with high temperature, during the course of an illness diagnosed as "pulmonary congestion." It was thought that ulcerative endocarditis was present upon admission to hospital. A couple of days later, one cornea became cloudy, and there was pus in the anterior chamber, while the other eye showed iritis and fibrinous exudation into the pupillary area. The patient died three days after the former eye had been enucleated. At the autopsy, infarctions were found in the spleen and kidneys, and pneumococci were obtained from the vegetative endocarditis present of the mitral valve. The enucleated eye contained numerous similar organisms. The sequence of events appears to have been: (1) Pulmonary pneumococcic infection, (2) pneumococcic endocarditis, (3) pneumococcic septicæmia, and (4) infection of the retina, ciliary body, and iris by the micro-organisms.

(8) After emphasizing the part played by the pneumococcus in the production of panophthalmitis, **Johnston** recommends that, before extraction of cataract, the conjunctival sac should be examined for those micro-organisms, and, if found, that the operation should be deferred.

II.—CATARACT AND CATARACT OPERATIONS.

(1) **Koslowski.—On the treatment of posterior capsular cataract. (Kletsheniau pomoutneni sadnei soumki chronstalika.)** *Wiestnik Ophtalmologii*, No. 6, 1903, and *Revue générale d'ophtalmologie*, 30 juin, 1904.

(2) **Chiari, C.—Traumatic cataract as a result of the rupture of the posterior capsule. (Cataratta traumatica da rottura cristalloide posteriore.)** *Annali di Ottalmologia*, Vol. XXXIII, Fasc. 3-4, p. 263.

(3) **Ramsay, A. Maitland.—Case of a man blind from Congenital Cataract who acquired sight after an Operation when he was 30 years of age.** *Glasgow Medical Journal*, October, 1903. (See OPHTHALMOSCOPE, Vol. I (1903), p. 20.)

(4) **Roy, Le.—Upon complicated cataracts: indications and contra-indications for operation. (Des cataractes compliquées: indications et contre-indications de l'opération.)** *Thèse de Bordeaux*, 1903.

(5) **Taylor, C. Bell.—A clinical lecture on the art of extracting for Cataract.** *Annals of Ophthalmology*, July, 1903, and *La Clinique Ophtalmologique*, 25 mars, 1904.

(6) **Burnett, Swan M.—Hæmorrhage from the eye after cataract extraction.** *Ophthalmic Record,* March, 1903.

(7) **Bordley, James, Junr.—A case of acute glaucoma with iritis, following cataract extraction.** *Annals of Ophthalmology,* April, 1903.

(8) **Fage.—The artificial ripening of Cataract. (La Maturation artificielle de la Cataracte.)** *Société française d'ophtalmologie,* May 4-7, 1903.

(9) **Bouchart, A.—The spontaneous evacuation during an iridectomy of a cataract couched nine years previously. (Issue spontanée pendant une iridectomie d'une cataracte abaissée neuf ans avant.)** *Recueil d'ophtalmologie,* XXV (1903), p. 124.

(10) **Hansell, Howard F.—Is double operation for senile cataracts justifiable?** *Ophthalmic Record,* December, 1903.

(11) **Haass.—Upon discission of juvenile cataract. (Zur Diszission juveniler Katarakte.)** *Woch. f. Ther. u. Hygiene des Auges,* Januar 21, 1904.

(12) **Vries, W. M. de.—On reclination of the lens. (Over reclinatio lentis.)** *Neder. Tijdschrift v. Geneeskunde,* 1904, No. 12.

(13) **Manolesco, M.—The operation for secondary cataract (L'opération de la Cataracte secondaire.)** *Annales d'oculistique,* mars, 1904.

(14) **Rogman.—Preventive serotherapy in the operation for cataract. (Sur la sérothérapie préventive dans l'opération de la cataracte.)** *Bull. de la Société belge d'ophtalmologie,* mai, 1904.

(15) **Rollet, Étienne.—The ultimate results of operations for Senile Cataract. (Résultats eloignés de l'opération de la Cataracte sénile.)** *Revue générale d'ophtalmologie,* juin, 1904.

(15A) **Péchin.—On the security given by iridectomy in the operation for senile cataract. (De la sécurité que donne l'iridectomie dans l'opération de la cataracte sénile.)** *Archives d'ophtalmologie,* juin, 1904, p. 351.

(15B) **De Lapersonne, F.—Glaucoma and cataract. (Glaucome et cataracte.)** *Archives d'ophtalmologie,* juin, 1904, p. 341.

(16) **Hirschberg, J.—The suction of cataracts, a radical operation of the Arabians. (Die Aussaugung der Stars, eine Radical-Operation der Araber.)** *Centralbl. für prak. Augenh.,* August, 1904.

(17) **Vitali, Emilio.—Capsulotomy and capsulectomy. (Capsulotomia e Capsulectomia.)** *Recueil des travaux Xe Congrès international d'ophtalmologie*, Lucerne, septembre, 1904.

(18) **Augiéras.—A case of spontaneous resorption of cataract: clearing of a bilateral incipient cataract. (Cas de résorption spontanée de crystallin cataracté: éclaircissement d'une cataracte double au début.)** *L'ophtalmologie provinciale*, septembre, 1904.

(19) **Wolffberg, L.—A new method for the artificial ripening of cataract, with remarks upon the indications for treatment of the eye with hot air. (Eine neue Methode der künstlichen Starreifung nebst Bemerkungen über die Indikationen zur Heissluft-Behandlung am Auge.)** *Woch. f. Ther. u. Hygiene des Auges*, 22 September, 1904.

(19A) **Vorstädter, L.—An improved form of the calorisator. (Eine Fixier-Vorrichtung zum Kalorisator.)** *Woch. f. Ther. u. Hygiene des Auges*, 6 Oktober, 1904.

(20) **Grilli, Guiseppe.—Cryoscopy and the pathogeny of senile cataract. (Cryoscopie et pathogénèse de la cataracte sénile).** *Recueil d'ophtalmologie*, juin, 1904.

(21) **Smith, Major H.—Cataract couching.** *Trans. Ophthal. Society*, Vol. XXIV (1904), p. 264.

(22) **Rockliffe, W. C. — Unusual sequence to cataract extraction.** *Trans. Ophthal Society*, Vol. XXIV (1904), p. 87.

(23) **Hale (Chicago).—Extraction of cataract. (Dos ideas en la extracción de la catarata.)** *Arch. de Oftal. Hispano-Americanos*, September, 1904.

(24) **Castillo y Quartillera R. del.—Couching as a method of treating cataract. (Tratamiento quirúrgico de la catarata por abatimiento.)** *Arch. de Oftal. Hispano-Americanos*, September, 1904.

(25) **De Lapersonne, F. and Poulard.—Upon early posterior discission. (De la discission postérieure précoce.)** *Archives d'ophtalmologie*, octobre, 1904.

(26) **Ryan, James P.—A case of suture of an unhealed corneal incision nineteen days after extraction of cataract.** *Lancet*, 5th November, 1904.

(1) **Koslowski** in cases of posterior capsular cataract with good perception of light recommends the following operation: an incision is made in the cornea and the lens simply extracted. In seven cases out of twenty-one the posterior capsule was removed along with the crystalline, but in fourteen cases it had to be removed by the aid of forceps. Extraction was

complete in eight cases; in five cases the peripheral parts of the capsule remained behind. The fundus of the eye was examined after the extraction, and one found in four cases retinitis pigmentosa, in three cases choroido-retinitis, in seven cases choroiditis, and in seven cases no alterations in the fundus of the eye. A. MAKLAKOW.

(4) Of the complications of cataract, some are local and others general. As to the first, **Le Roy** distinguishes between those which constitute a more or less formal contra-indication to operation, and those that merely necessitate certain modifications in the operation. In the first group, Le Roy passes in review atrophy of the optic nerve, retinal detachment, glaucoma, iritis, generalised choroiditis or retino-choroiditis, the presence of foreign bodies within the eyeball, and so forth. Amongst the general states that call for special attention prior to operation are rheumatism, gout, albuminuria, diabetes, syphilis, alcoholism, and cardiac and cerebral affections. A. DARIER.

(5) An interesting article, in the course of which **Taylor** describes the modifications he has introduced in cataract extraction. In the case of refractory patients Taylor advocates general anæsthesia by means of ether nebulised by nitrous oxide.

(6) **Burnett's** patient, a woman aged 66 years, showed signs of intra-ocular hæmorrhage some 5½ hours after the simple removal of a cataract from one eye. The eye was removed eighteen days after the extraction. Upon pathological examination, it was found that the retina and choroid were widely separated from the sclera, the intervening cavity being filled with blood. The blood had broken through the choroid and retina near the ciliary body, and forced its way through the corneal opening carrying the iris with it and crowding the retina downwards. It was thought that the source of the hæmorrhage lay at or near the ciliary body above.

(7) **Bordley** removed a cataract from one eye of a coloured woman, aged 79 years. Much vitreous was lost, and the result was bad. Thirteen weeks later, the cataract was extracted from the other eye; and a month after the operation, sight in that eye was about $\frac{20}{40}$. Three weeks later, however, the patient returned with acute glaucoma of the eye. Synechiæ were present, and the tension was + 2. The symptoms were not relieved by eserine. It was then suggested that the second eye was affected with sympathetic ophthalmitis. Accordingly, iridectomy was performed upon the eye first operated on, mercury was given internally, and atropine was applied. The ultimate result was good.

(8) Nowadays many ophthalmic surgeons do not hesitate to extract cataracts before complete maturity, should there be any need to take that step. But, despite all precautions, this entails more difficult operations and more frequent secondary cataracts. In a certain number of cases it is preferable, to **Fage's** thinking, to resort to artificial maturation as introduced into practical eye work by Gibson in the year 1811. To attain this result, two methods lie open to us : first, to open the capsule so as to allow the aqueous to infiltrate the fibres of the crystalline lens ; or, secondly, to practise simple massage of the crystalline lens.

Fage employs a method which avoids iridectomy and at the same time does not irritate the iris. It induces a rapid enough maturation without exposing the eye to a severe reaction, on the one hand, or to a glaucomatous attack, on the other. The pupil being dilated, Fage makes a small central opening in the capsule by means of a narrow cataract knife introduced obliquely near the edge of the cornea. The aqueous humour is allowed to escape on withdrawal of the instrument, and massage is then practised through the cornea. This combined operation, then, provokes a speedier maturation than simple massage without really entailing greater risk, seeing how small is the opening in the capsule.

A. DARIER.

(10) **Hansell** believes that under some circumstances it is justifiable, and indeed, even desirable, to remove senile cataracts from both eyes at one sitting. He has successfully adopted this plan in five cases.

(11) **Haass** insists upon the fact that the dangers and disadvantages attending discission through the cornea may be avoided by adopting the subconjunctival operation. By this method Haass has operated upon fourteen cases of juvenile cataract. The details of the operation are briefly as under: the pupil is dilated, the parts rendered as aseptic as possible, and the eye anæsthetised by cocaine (3 %) and adrenaline (1:2,000). The surgeon, standing behind the patient, fixes the eyeball, and directs the patient, who is recumbent, to look towards his nose, thereby putting the temporal conjunctiva somewhat on the stretch. The needle is then introduced as peripherally as possible in the horizontal meridian through the conjunctiva and sclero-corneal junction. The needle-track lies for the most part in the sclera, parallel to the plane of the iris, and immediately in front of the latter in the anterior chamber of the eye. The patient is now directed to look straight forward, and the needle is carried to that position where it has been decided to open the capsule. The handle

of the instrument is raised, so that the cutting end of the needle enters the capsule, and the point is allowed to describe a small arc in the crystalline lens. No aqueous humour should be lost in a well-performed operation. When the conjunctiva is relaxed by the patient looking straight forward, the conjunctival and the scleral punctures do not correspond. The needle (of which a picture is given) must be extremely sharp and provided with a cutting point. Pagenstecher's needle is, according to the author's experience, an ideal instrument for this operation. The discission should be performed in a darkened room, under lateral illumination. A small electric lamp, fixed to the surgeon's forehead, is, however, far more convenient. An illustration is given of the lamp employed by Haass himself. S. S.

(12) A pathological report of a case of blindness after couching of the lens performed by an Arabian quack doctor, who travelled on the Continent of Europe some ten years ago. The results of the operation were glaucoma, perforating corneal ulcer, and, subsequently, intra-ocular hæmorrhage, for which the eye had to be enucleated. G. F. ROCHAT.

(13) The composition of a so-called " secondary cataract " varies from a simple opacity of the posterior capsule, on the one hand, to a thick membrane made up of the anterior and posterior capsule, lens remains, and inflammatory products, on the other. The varying structure of the cataract has doubtless much to do with the different results obtained by operation. Apart from this, operation may fail if undertaken before the original infection is extinct, a fact that leads **Manolesco** to abstain from surgical interference until at least four months have elapsed since the disappearance of all irritation. Manolesco employs three operations, each corresponding to a particular anatomico-pathological condition of the obstructing membrane. (1) An almost vertical cut is made in the cataract by means of a narrow and very sharp blade introduced through the limbus 3 mm. to 4 mm. above the transverse meridian of the cornea. This procedure is adapted to simple cases, where the elasticity of the iris is still maintained. The traumatism is relatively slight. (2) In capsular cataract, when the membrane is thick at its centre and fine at its periphery Manolesco extracts the after-cataract. (3) In the worst cases of all, Manolesco removes a piece of the secondary cataract, which he seizes with iridectomy forceps, and cuts away. H. de V.

(14) **Rogman** suggests that preventive treatment by serum may be of use in eye operations, more especially when there is reason to think that the aseptic conditions are not all that

may be desired. Under these circumstances he has used a mixture of antistreptococcic serum (Menzer) and antipneumococcic serum (Roemer), injecting 5 cc. to 10 cc. of the combination before the operation. Particulars are given of two cases thus treated—the first of iridectomy in a man with dacryocystitis, and the second of cataract extraction in a woman with ozœna. No reactionary inflammation followed either operation; but it should be noted that in the first case Rogman had removed the suppurating lacrymal sac a month before he performed the iridectomy. H. DE V.

(15) **Rollet** claims priority in thus tabulating the late results of a considerable number (150 out of 500) of operations; that is to say, he has accurately investigated these cases, and has not merely contented himself with second-hand reports as to the visual acuity. He has made careful investigation of the V.A. and the state of the pupil in each case, and followed out the changes of corneal curvature which take place. The last point is interesting. It is found that in two to five months after operation 25 per cent. of cases have no longer any corneal asymetry and that the remainder have a mean of 2.57. A year or more after operation there is either complete disappearance of the astigmatism or the development of a slight astigmatism at right angles to the original. "It is possible to follow the transformation of the astigmatism, which affects successively the horizontal and oblique meridians and finally becomes reversed." It is to this disappearance of post-operative astigmatism as well as to the absorption of lenticular and capsular débris that the marked improvement in vision, obviously occurring in nearly all cases of cataract operation, is mainly due; in a certain number of cases improvement is partly attributed to re-education of the eye.

W. ERNEST THOMSON.

(15A) **Pechin** publishes an argumentative article dealing with the advantages and disadvantages of the simple operation for cataract. He is now an ardent advocate of the combined operation, and believes that, whenever possible, the iridectomy should be performed some time before the extraction of the cataract. H. DE V.

(15B) **De Lapersonne** discusses the etiology of glaucoma after the extraction of the cataract. The secondary forms of glaucoma—which supervene from the third or fourth day after the operation until the end of the second or third month—are the most common. Various causes have been assigned for the complication, such as the abuse of atropine, the presence of much soft cortical matter, slight degrees of irido-cyclitis, and, above all, entanglements of the iris and the capsule.

The last factor is certainly the most important, and may come into play whether iridectomy has or has not formed part of the original operation. The adhesions need not be large in order to produce glaucoma, and may be merely small adhesions of the deeper part of the corneal wound, the so-called *accoudements* of the iris. The complication has been known to follow extraction of the lens in its capsule. De Lapersonne believes that the hypothesis of vitreous œdema, due to disturbances of the deep circulation of the eye, is rational. Renal impermeability, also, is an important factor in the causation of secondary glaucoma, as shown by a case mentioned in the present communication, where periods of inadequacy coincided with recurrences of high tension in an eyeball from which cataract had been removed several weeks previously. De Lapersonne advises that the utmost care should be taken to ascertain the general state of a patient prior to operation. For example, the existence of high arterial tension, of malleolar œdema, of gastric disturbances, even when not associated with albumen in the urine, should lead to a careful investigation of the renal permeability, using for the purpose, if necessary, methylene blue and experimental doses of sodium chloride. Should impermeability be proved by these or other means then the patient should be submitted to a special *régime* before proceeding to operation.

S. S.

(17) **Vitali** extols the advantages of capsulectomy over capsulotomy in the removal of senile cataract. After dividing the capsule in the ordinary way, the pupil often becomes deformed and irregular from posterior synechiæ, and the shreds of lacerated capsule sometimes set up plastic iritis. Vitali adopts the following plan : atropine having been freely applied to the eye, the incision is made, and the capsule withdrawn from the eye after it has been seized with forceps. The ends of Vitali's forceps are provided with sharp teeth, are curved to correspond with the anterior surface of the crystalline lens, and have a length equal to the diameter of the capsule. Vitali finds that a previous iridectomy is advantageous, since otherwise there is some danger of the iris becoming entangled in the teeth of the forceps. So far no complication in the shape of iritis or secondary cataract has been observed to follow the performance of the foregoing operation.

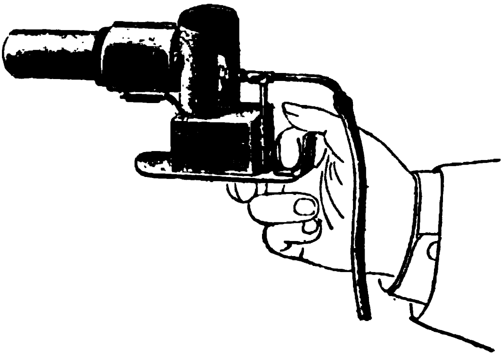
ANNIE T. BARNARD.

(18) **Augiéras** relates a couple of cases which bear upon the absorption of cataractous lenses. (1) A man, aged 64 years, had suffered from cataract in one eye for upwards of fifteen years. After an attack of acute rheumatic iritis, sight began

to improve, and four years after the iritis, the cataract was found to have undergone absorption and vision to be equal to 0.6 (corrected). (2) A lady, aged 51 years, consulted Augiéras on account of failing sight, the result of incipient cataract. Seven months later, vision had become normal, and the cortical striæ present upon the first examination had almost disappeared. The improvement had been preceded by an attack of acute conjunctivitis.

The foregoing cases resembled one another in two respects : (*a*) augmentation of the general nutrition, and (*b*) modification of the ocular nutrition consecutive to an acute inflammatory attack.
H. DE V.

(19) After alluding to the various surgical means of ripening cataract and the complications attending those operations, **Wolffberg** describes his own method by means of a hot air douche, which he has been led to adopt on account of the well-known frequency of cataract amongst glass-blowers as the result of the high temperature at which they work. For this purpose he employs an appliance, a so-called "Kalorisator," invented by Dr. L. Vorstädter. As may be seen from the figure, a spirit flame is projected by means of a bellows into a tube containing asbestos, and in this way a stream of air, heated to a temperature of 70°, 100°, or 170° C., can be obtained in a few seconds. To begin with, the current of hot air is directed upon the patient's forehead, and afterwards upon the eyelids. The patient's mouth is meanwhile shielded by a piece of damp wadding wrapped in cambric. The sitting seldom lasts longer than five minutes. Six eyes (3 with high myopia and 3 with senile cataract) have been treated by Wolffberg with the current of hot air, but although the number was small, the effects were so obvious that the author does not hesitate to recommend the method to the attention of his colleagues. Precise clinical details are not given ; but it may



be added that the sittings took place two or three times a day, and that ripening came about, on the average, in one week. It is evident that the "Kalorisator" may also be employed in other conditions—as, for example, in pannus with photophobia and blepharospasm, and in cases of iritis and neuralgia to relieve pain. S. S.

(19A) **Vorstädter's** improved "Kalorisator" (an instrument employed by Wolffberg for the maturation of cataract, etc.) allows the stream of hot air to be directed exactly upon the desired spot. The apparatus is fixed upon a retort-stand allowing of a vertical, a horizontal, and an axial movement. An asbestos mask is used to protect the skin from the action of the current of hot air.

(20) **Grilli** bases his theory of the production of cataract on the results of the chemical, microscopic, and cryoscopic examinations of the urine of 80 cases of cataract compared with results of similar examinations in 60 normal persons of varying ages. He found that the urine of the cataract patients was of low specific gravity, relatively increased in quantity, lacking in sediment and renal elements, and possessed of a feeble osmotic tension much below normal; Δ being —1.10, as compared with Δ = —1.65 in the healthy cases.* These characteristics suggest chronic interstitial nephritis or a form of renal inadequacy which has been called "senile kidney." This view is supported by Frenkel's experiments, which show that the permeability of the kidneys to methylene blue is diminished in cases of cataract, and also by the low percentage of urea and chlorides in the urine of cataract patients. The retention of these substances and other effete matters in the blood produces increased osmotic tension of the blood and co-incidentally of the intra-ocular fluids (aqueous and vitreous) derived from the blood. Peters and Troncoso have shown that the aqueous humour in cataract patients contains an excess of inorganic salts. The effect of this increase of osmotic tension of the circumlental fluids is to cause a flow of fluid from the lens into those fluids, thus tending to produce an osmotic equilibrium between the fluids inside the lens and those surrounding it. This abstraction of watery fluid from the lens is the first step in the production of cataract, and accounts for the vacuolation of the fibres and the separation of the capsule from the cortex, observed by Deutschmann and others. The occurrence of cataract in persons exposed to intense heat (glass blowers, etc.) and in diabetics is explained by excessive perspiration

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* Δ is the symbol for the freezing point of urine, and the — sign indicates the number of degrees centigrade below the freezing point of water.

in the one case, and the accumulation of sugar and other effete matters in the blood in the other, producing increased osmotic tension of the blood and of the intraocular fluids. Experimental proofs of the correctness of this view has been adduced by the artificial production of cataract by injection of solutions of salt and sugar into the anterior chamber (Deutschmann) and by the condensation of the blood in an animal by the abstraction of a large quantity of water (Kunde). Further evidence of the dehydration of the lens is found in the fact that cataractous lenses are considerably lighter in weight than clear lenses of patients of similar age (Grunet). Briefly summarised the author's conclusions are as follows—Cataract patients have, according to urinary analysis, renal sclerosis or "senile kidneys." The reduced elimination of solids causes increased osmotic tension of the blood and of the lymph and endocular liquids derived from the blood. The lens, being nourished by endosmotic phenomena and being surrounded by hypertonic liquids, gets deprived of some of its fluid. This process of dehydration produces cataract. J. JAMESON EVANS.

(21) **Major Smith** discusses cataract couching, an operation of which he had had much experience in India. Most of the cases, in his experience, fail at once from iridocyclitis or from suppuration, and the remaining cases usually show degeneration of the vitreous and retina, leading slowly but surely to ultimate loss of sight. Smith is therefore of opinion (despite the views recently expressed by Power, Maynard, and others) that "lens couching at the present time is an operation that should not be practised outside the ranks of charlatans."

(22) On the second day after the extraction of cataract from a decrepit man, aged 78 years, **Rockliffe**, noticing some slight striation of the cornea and a little chemosis, ordered irrigation every three hours with a solution of mercury perchloride, 1:3,000. Two days later, there was membrane on the upper and lower eyelids, and the cornea had become dry. The cornea became more and more opaque, membrane spread to the ocular conjunctiva, and eventually the eye was removed sixteen days after extraction of the cataract. No Klebs-Löffler bacilli could be found in the palpebral membrane.

(23) **Hale** favours the so-called simple operation, with avulsion by forceps of the anterior capsule. He advises surgeons who have not at hand all the appliances of a fully-equipped operating theatre to examine the eye that has been operated on under a gentle stream of water, as in that way, he says, it becomes easy to see and to deal with fragments of lens or of capsule. HAROLD GRIMSDALE.

(24) After a review of the circumstances under which the operation of couching may be justifiable, the author describes the sclerotic and the corneal method of performing the operation. In each the surgeon may displace the lens either by reclination or by "abasement." The corneal route is simpler and attended with less risk. If couching be thought proper, that method should be chosen in all cases.

HAROLD GRIMSDALE.

(25) For abstract of this communication, presented to the International Congress of Ophthalmology, 1904, see THE OPHTHALMOSCOPE, September, 1904, page 387.

(26) About a month after a preliminary iridectomy had been performed, **Ryan** removed the lens from an organically unsound eye. The corneal wound failed to heal, and the vitreous began to protrude. Accordingly, nineteen days after the extraction, the lips of the wound were closed by two fine silk sutures, the vitreous having first been pushed back. When the sutures were removed eight days later, the wound was completely healed.

III.—OPERATIONS.

McKeown.—Intraocular Irrigation in Cataract Extraction, Ulster Branch of the British Medical Association. January 22, 1903. *British Medical Journal,* January 31, 1903, p. 258.

Schulte.—Upon the operative treatment of Ulcus Serpens. (Zur operativen Behandlung des Ulcus Serpens.) *Die Ophthalmologische Klinik,* 5 Januar, 1904, and *La Clinique Ophthalmologique,* 25 janvier, 1904.

In ulcus serpens there are nowadays two favourite methods of treatment: first, by the Saemisch section, and, secondly, by the galvano-cautery, with or without perforation of the anterior chamber. Neither of these is without its disadvantages. Thus, the former often brings about a leucoma adherens with its attendant dangers, while the latter implies a leucoma larger than the original ulcer, owing to destruction of sound tissue. **Schulte** proposes a plan of treatment which he thinks combines the good points of the foregoing operations. He advocates punctate perforation of the floor of the ulcer with the finest terminal of the galvano-cautery. A small hypopyon needs no special treatment. If a large hypopyon be present, the anterior chamber is opened below, in the sclero-corneal boundary, and the pus removed, and the floor of the ulcer is penetrated with the cautery after the chamber has been restored. Schulte's plan, nevertheless, is not without its dangers, as witness delay in restoration of the chamber, anterior synechia, and an opacity of the anterior capsule of the lens at a point corresponding to the site of puncture, as in cases mentioned by him.

S. S.

Terson, A.—The operative treatment of senile Ectropion. (Le traitement opératoire de l'ectropion sénile.) *Recueil des Travaux X^e Congrès international d'ophtalmologie,* Lucerne, septembre, 1904.

In the present brief communication **Terson** contrasts the operation introduced by him for senile ectropion in 1896 with the modification practised and recommended by Obarrio six years later.

Holmström, J.—On the abrasion of spots on the Cornea. (Ueber Abschabung von Hornhautflecken.) *Klin. Monatsbl. f. Augenheilk.*, Januar, 1904, p. 43.

The *abrasio corneæ* recommended by Malgaigne and Szokalsky was adopted by **Holmström** in several cases with distinct success. The central part of the affected corneal area was scraped with a sharp spoon until it appeared, under focal illumination, perfectly even and smooth. The subsequent treatment consisted of warm applications, a bandage, and massage with ointments. Holmström adduces three cases where there was a decided improvement in distinctness of vision. He has performed the operation some twenty times, only however in diffuse, superficial, corneal spots with rough, irregular surface.

A. BIRCH-HIRSCHFELD.

Manolesco. — Upon Iritomy. (De l'Iritomie.) *Annales d'oculistique,* mai, 1904.

Manolesco, of Bucarest, describes the operation of iritomy as practised by him in the extraction of cataract and in eyes with transparent lenses for optical purposes. Of 146 operations of the kind, 16 were for the latter and 130 for the former purpose. The details of the operation are simple. The initial steps resemble those of an iridectomy, but instead of excising the iris, the last-named is divided with scissors in a direction perpendicular to its circular fibres. Straight scissors are employed, and the iris is reduced by means of a small, special spoon, of which the convex part lends itself admirably to the smoothing out of the membrane. Entanglement of the iris is stated to have occurred in 7.7 per cent. of the cases, but Manolesco appears to attach little importance to that complication. Eight figures illustrate the results of iritomies made for leucomata, zonular cataracts, pterygium, and so forth.

Carbone.—On the action of iridectomy in glaucoma. (Sull' azione dell' iridectomia nel glaucoma.) *La Clinica Oculistica*, September, 1904.

Carbone considers that much of the aqueous humour is carried away by the small crypts of the iris described by Fuchs. From the crypts the fluid passes into the vessels of the iris and so into the canal of Schlemm and the anterior muscular veins. When iridectomy is performed in glaucoma, the veins of the iris gape after division, and fluid passes directly into them. No evidence from microscopical examination is adduced in support of Carbone's view, which, therefore, remains wholly hypothetical.

HAROLD GRIMSDALE.

Holth, S.—Tattooing of the cornea with various colours. (Die polychrome Hornhauttätowierung.) *Recueil des travaux X^e Congrès international d'Ophtalmologie*, Lucerne, septembre, 1904, and *La Clinica Oculistica*, Septembre, 1904.

Holth thinks that attempts at imitating not only the pupil but also the iris, which formerly used to fail, are more likely to be successful to-day when cocaine, adrenaline, asepsis, and technical improvements facilitate the task. His experiments on the corneæ of rabbits, as well as his experience of human eyes, appear to justify the plea for tattooing the cornea with the following colours : red, vermilion, brown ; a mixture of vermilion and soot ; sepia ; yellow : terra di Siena ; blue : ultramarine, " cerulean blue " (Windsor & Newton, London) ; gray : " Davy's Gray " (Windsor & Newton) ; white : china-clay ; precipitated chalk. The colours are pulverised as finely as possible, freed from all impurities by washing with water, alcohol, and ether, sterilised by hot air, transformed into an emulsion by the addition of a few drops of a weak sterilised solution of gum arabic, and, finally, tested on the corneæ of rabbits. The tattooing itself is performed with a collection of needles, after the removal of the epithelium by means of a sharp spoon.

C. MARKUS.

Lagrange.—Extraction of the lens in high Myopia. (Extraction du cristallin transparent preconisée par Fukala et Vacher dans le traitement de la myopie forte.) *Gazette des Hôpitaux*, 1904.

Lagrange, in a report to the Academy of Medicine, spoke of having performed removal of the lens in high myopia on twenty occasions. The patients had been kept under observation from two to eight years. Lagrange does not operate in cases where less than 17 D. of myopia exists. He has never observed detachment of the retina or aggravation in the lesions of the fundus follow the operation. Lagrange insists upon the bettering of sight after operation.

Aubaret.—The radical cure of dacryocystitis of nasal origin. (La cure radicale des dacryocystitis d'origine nasale.) *Annales d'oculistique*, T. CXXXII, p. 81, août, 1904.

Aubaret considers that the proportion of cases of dacryocystitis which depends on nasal disease is large, that such cases are analogous to the inflammations of the various sinuses which open into the nasal cavity and should be classified and treated like them, and that the cures obtained even by extirpation or cauterisation of the lacrymal sac are not permanent. His method of treatment consists in excising the sac, and, in addition, making a free opening into the middle nasal fossa, packing the cavity with gauze, the end of which is brought down into the nose, and completely closing the skin wound.

R. J. COULTER.

IV.—INSTRUMENTS AND APPLIANCES.

Ascher, Leon.—A new instrument for mixing spectral colours. (Ein neuer spektraler Farben Mischapparat.) *Deutsche Physikalische Gesellschaft*, 22 September, 1903.

On account of its compactness and comparative cheapness, **Ascher's** instrument marks a welcome advance in the direction of providing a practical appliance for testing the colour-sense by means of equation of homogeneous colours. It is based upon the same principles as the instrument which was described by Tscherning at the recent Congress at Lucerne. The following are its distinctive features: an Auer lamp as the source of light, two mirrors reflecting the rays through two pairs of adjustable slits, a Rowland net, a double prism dividing the visual camp into two halves, and a telescope through which the spectra are to be observed.

C. MARKUS.

Brooksbank, James G.—A portable Perimeter. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

Volkmann, W.—New forms of my Ophthalmic Magnets. (Neue Formen meiner Augenmagnete.) *Klin. Monatsbl. f. Augen.*, September, 1903.

As a result of further experiments, **Volkmann** has reduced the size of his magnets and altered the way in which they are coiled, so that their capacity is more than doubled for the same resistance and current needed. For further particulars readers are referred to the original communication.

A. BIRCH-HIRSCHFELD.

Asmus.—Some account of the Schumann Electro-magnet. (Mitteilung ueber den Schumann'schen Augenelectro-magneten.) *Klin. Monatsbl. f. Augen.*, März, 1904, p. 241.

Asmus describes a new model electro-magnet manufactured by Schumann, of Düsseldorf. It is capable of raising a steel ball of 4 mm. at a distance of 76 cm. with a current of 110 volts. The price is 350 marks (£17 10s.).

A. BIRCH-HIRSCHFELD.

Ambialet.—The measurement of ocular protrusions : exorbital ophthalmometry. (Mensuration des protrusions oculaires ophtalmomètre exorbitaire.) *Annales d'oculistique*, T. CXXX, 1903, p. 170.

Ambialet has invented an instrument whereby protrusions of the eyeball may be measured. For details the original must be consulted.

Schoute.—Observations with the orthoscope. (Waarnemingen met den Orthoskoop.) *Ned. Tijdschrift voor Geneeskunde.*, 1904, II, No. 11.

A method of determinating the index of refraction of the aqueous humour in the *living* eye. The contents of this very interesting paper do not lend themselves to a short abstract. The method, based on a series of observations with Czermak's orthoscope, is not yet appliable to practice.

G. F. ROCHAT.

Noiszewski, K.—A forceps for removing a pterygium. (Eine Pinsette zur Entfernung des Pterygiums.) *Centralb. für prak. Augenh.*, Marz, 1904.

Noiszewski describes a broad, very fine-toothed forceps with which the pterygium is seized and slowly drawn away from the cornea, taking care to obtain as many of the rootlets as possible. If it be impossible to get them all away at one sitting he repeats the operation two or three times, if necessary. The pterygium is then cut off 1 mm. to 2 mm. from the corneal margin, and the conjunctiva washed frequently with 1 in 100 collargol solution. Noiszewski states that recurrence after operation by this method is very rare.

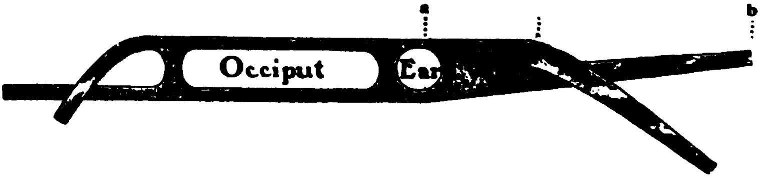
A. LEVY.

Dunn, Percy.—A new colour test appliance. *Lancet*, 23rd April, 1904.

Dunn's apparatus consists of a metal screen, fitted with an oval aperture, some three centimètres in diameter, in which coloured glasses, etc., can be mounted. The screen is placed upon a table with a light behind it, and the candidate is seated about four mètres distant. In the candidate's hand is placed a card with coloured squares. A coloured disc is then placed in the screen, and the candidate is first asked to name the colour and next to point to it on the card in his hand. The appliance can be obtained from F. Davidson, 140, Great Portland Street, London, W.

Murdoch, Russell.—An eye bandage. *Ophthalmic Record*, June, 1904.

The appended cut will give a good idea of **Murdoch's** eye bandage, which is made of flannel. To apply the bandage, the ear is passed through the small hole, the occiput through the larger hole, and the affected eye is covered with the only uncut piece of flannel. The strings are crossed and tied.



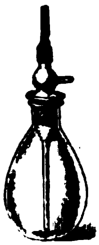
Wolffberg.—A protective eye-bandage for out-patients. (Augenschutzbinde für ambulante Behandlung.) *Woch. f. Ther. u. Hygiene des Auges.*, 6 Oktober, 1904.

Wolffberg describes a bandage which he has found useful in out-patient work. This consists of an oval of soft black leather, through which a riband is passed in such a way as to exert equable pressure upon the dressing and the eye beneath. The riband is fixed in place by an oval of boric lint. J. F. S.

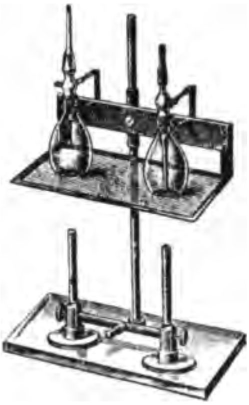
Hummelsheim, Ed.--Eye drop bottles capable of sterilisation—a new model. (Unsere sterilisierbaren Augentropffläschchen.—Ein neues Modell.) *Klin. Monats. f. Augenheilkunde*, November, 1904.

After mentioning the aseptic eye bottles devised by Stroschein, Mohr, Snellen, Sidler-Huguenin, Valenti, Struycken, and Becker, **Hummelsheim** describes his own bottle, which differs in some particulars from Stroschein's flask. Thus, the bottle (see Fig. a) has a flattened bottom, an ovoidal shape, and the pipette is provided with a flattened glass tab, intended to facilitate the holding of the flask during the boiling of its contents, and to avoid touching the essential part of the appliance after sterilisation. A stand with two Argand burners and a gauze shelf to carry the bottles during sterilisation (see Fig. b) is provided. J. F. S.

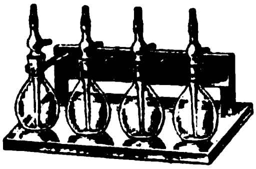
a.



b.



c.



V.—MISCELLANEOUS.

Jessop, Walter H.—On the prognosis, after operation, in Glioma of the Retina. *St. Bartholomew's Hospital Reports*, Vol. XXXIX.

Of six cases of glioma seen by **Jessop** in two years, three were alive and well more than two years after operation. The percentage of recoveries was 100 in the two purely intra-ocular cases, and 25 in the four extra-ocular cases. Briefly, Jessop regards any operation in the extra-ocular stage of glioma as little likely to save the patient's life, whereas the intra-ocular cases may practically all be saved by enucleating the eyeball and removing a piece of optic nerve 12 mm. to 15 mm. in length.

Yahya-Mirza, Prince.—The influence of alcohol upon the progress of syphilis and upon post-syphilitic accidents. (Influence de l'alcool sur la marche de la syphilis et les accidentspost-syphilitiques.) *Recueil d'ophtalmologie*, XXV (1903), p. 565.

Struck by the frequency of specific eye disease in Paris as compared with Teheran, where **Yahya-Mirza** practises, the author suggests that the use and abuse of alcohol is accountable for the difference. In Persia abstention is almost the rule ; whereas in Europe the contrary is the case.

S. S.

Oliver, Charles A.—The teaching of Ophthalmology in China. *American Journal of Ophthalmology*, August, 1903.

Jackson, Edward.—Fusion Tubes and their use for Strabismus. *American Journal of Ophthalmology*, August, 1903.

Jackson believes that Priestley Smith's "heteroscope" is convenient for measuring the amount of convergence or divergence, but that it is not flexible enough for actual work in the educative treatment of strabismus, that it is not adapted to different widths between the pupils, and, lastly, that its movements are limited to those of convergence and divergence. For these various reasons, Jackson has modified the instrument. He has the tubes made, the one entirely independent of the other. "One end of the tube is closed by a metal diaphragm, in which is a minute hole and a narrow slit. At the other end of the tube is placed a convex lens, having its principal focus at the diaphragm. One side of the tube is cut away or flattened, so that the slits can be brought almost together. This allows fusion when the normal axes converge to a point as close as three inches from the eyes."

Neuburger, Sigmund.—Polyarthritis in ophthalmia neonatorum. (Polyarthritis bei Blennorrhoea neonatorum.) *Klin. Monatsbl. f. Augenheilk.*, J. XLI. (1903). 1 Band, p. 406.

Neuburger saw polyarthritis in a baby on the twelfth day of life and the seventh day after the development of gonorrhœal conjunctivitis in one eye. It is a somewhat curious coincidence that the mother manifested inflammation of several joints two days before the baby was born. S. S.

Duane, Alexander—Suggestion for a uniform nomenclature of the movements and motor anomalies of the eye. *Trans. American Ophthal. Society*, Vol. X (1903), p. 102.

M'Gillivray, Angus.—A simple way of finding the Interaxial Distance for the Centre of Spectacle Lenses. *Ophthalmic Review*, December, 1903.

M'Gillivray is struck by the frequency with which interpupillary distance is given as a guide for the centering of lenses in text-books, whereas what should be aimed at is, that the visual axes should traverse the optical centres of the lenses, and thus obviate prismatic effect. The centre of the pupil seldom coincides with this, especially if there be a high angle *alpha*. In order to arrive at this point for reading glasses, a candle should be held before the eyes of the patient at a reading distance, and the distance of the two central corneal reflexes should be measured. This is done by means of a steel rule having a runner of paper attached to it. The rule is held close to the eye, and its extremity marks the position of one image, and the runner is made to correspond to the image on the other eye : the scale is then read. For distance glasses the candle should be placed six metres off, and the images measured in a similar manner. The sliding rule can also be used as a means of verifying the centering of the glasses. The centre of one glass is found in the usual manner by looking at an unbroken line, such as the bar of a window frame, and its position is marked by the end of the rule, while the other is found in a similar manner and marked with the runner, the space is then noted, and an error is at once detected.

C. D. M.

Fortunati, A.—A new Acetylene lamp. (Una nuova lampada all'acétilène per uso oculustico.) *Annali di Ottalmologia*, XXXII, Fasc. 1-2, p. 51.

Stephenson, Sydney.—A case of paralysis of the cervical sympathetic nerve. *Reports of the Society for the Study of Disease in Children*, Volume III (1903), p. 149.

A baby aged five months, was affected with a large, hard swelling on the left side of the neck. An oblique incision was made over the tumour, the contents of which were evacuated by Hilton's method. Since the abscess extended to the mucous membrane of the pharynx, a diagnosis of retro-pharyngeal abscess was made. When the baby was seen by **Stephenson,** eighteen days after the operation, there was paralysis of the left sympathetic nerve. A puckered scar was present, about one inch above the outer third of the left clavical, behind the posterior border of the sterno-mastoid muscle. The cervical sympathetic had doubtless been injured during the evacuation of the retro-pharyngeal abscess.

Charbonnier and Le Roux.—Curious pathogeny of a case of ophthalmia neonatorum. (Pathogènie curieuse d'un cas d'ophtalmie purulente des nouveau-nés.) *L'Année méd. de Caen*, 1903, p. 163, and *Revue générale d'ophtalmologie*, 30 avril, 1904.

Charbonnier and **Le Roux** observed a purulent ophthalmia with gonococci supervene in a baby of thirteen days, and they incriminated the water used in baptism as the means whereby the infection was carried.

Poulard, A.—Glandular enlargements in ocular infections. (Adénopathies dans les infections oculaires.) *Annales d'oculistique.* T. CXXX. (1903). Pt. I, p. 318.

Poulard has an article, which occupies fifteen pages of the *Annales*, dealing with the swelling of the preauricular and neighbouring glands in infections of the conjunctiva, lacrymal passages, and eyelids. S. S.

Elschnig.—The refraction of light in the retinal arteries of the human eye. (Der Lichtreflex der Netzhautarterien des menschlichen Auges.) *Klinische Monatsblätter für Augenheilkunde,* Januar, 1904, p. 37.

Dimmer in a previous communication had attributed the "light streak" of the retinal arteries to the anterior surface of the axial current, and those of the veins to the anterior surface of the column of blood. **Elschnig** considers Dimmer's view to be erroneous, since the refracting line remains unmoved when the central artery is compressed. He holds that the refraction of light in both instances has the same point of origin, and that the vessel-wall in the case of the arteries influences the colour, intensity, and width of the refracting line. A. BIRCH-HIRSCHFELD.

Geuns, J. R. van.—An acetylene lamp for use in the operation of after-cataract. (Acetyleen lamp ten gebruike bij na staar operatie.) *Ned. Tijdschrift v. Geneeskunde,* 1904, No. 12.

Electrical apparatuses are very useful for focal illumination, but they have certain drawbacks, especially if one is dependent upon accumulators or batteries. **Van Geuns** uses the very brilliant light of an ordinary acetylene bicycle lamp. To concentrate the light, a long conical tube, well polished on the inner side, is attached to the front. At the opposite end of the tube a pair of 20 D. lenses are placed at a small mutual distance. This end is kept about 6 cm. from the eye, and in that way an area of about 2 cm. in diameter is strongly illuminated. The lamp itself being at a great distance from the eye, there is safety and little encumbrance to the operator.

Koster demonstrated an acetylene lamp much resembling the well-known lamp of Priestley Smith, but in which a bicycle lamp is substituted for the candle. G. F. ROCHAT.

Hilbert, Richard.—Iritis after the sting of a Bee. (Iritis nach Bienenstich.) *Wochens. f. Ther. u. Hygiene des Auges,* 24 März, 1904.

Hilbert's patient, a woman of 63 years, was stung in the upper lid by a bee. Next day the lid and the corresponding cheek were œdematous and discoloured ; there was conjunctival and ciliary redness ; and hypopyon and keratitis punctata were present. The pupil was contracted, although there were no synechiæ. General symptoms, including a thread-like pulse of 52 per minute, were also present. Cure came about at the end of four weeks. S. S.

Foster, Matthias Lanckton.—When should a General Practitioner send his patients to the Ophthalmologist? *New York Medical Journal, and Philadelphia Medical Journal,* 7th May, 1904.

Foster answers this question thus : " When he (the general practitioner), cannot conscientiously treat them himself " ; and then qualifies this trite answer by a brief dissertation on the varying degrees of ophthalmological skill possessed by the general practitioner.

Gibbons, Edward E.—The value of strong magnifying glasses in Amblyopia. *Journal of Eye, Ear, and Throat Diseases,* May-June, 1904.

In patients afflicted with very defective sight as the result of fundus changes, **Gibbons** recommends the use of strong (10 D.) magnifying glasses, in order to increase the size of the retinal images, in addition to the correction of any existing ametropia. The proposal is practically identical with that made by R. W. Doyne in THE OPHTHALMOSCOPE for February, 1904 (p. 50), although Gibbons is apparently not aware of the fact.

Bartells, M.—On the method of examining the pupils by means of incandescent gas light. (Zur methode der Pupillenuntersuchung bei Gasglühlicht.) *Zeitsch. für Augenh.,* Mai, 1904.

Bartells describes his method of examining the pupils for fine differences in size, by means of the incandescent gas light. He uses for this purpose a lamp of the power of about 100 meter candles held in front of the patient, in a room with white walls, but protected from the daylight. The eyes are examined together and separately. The time of adaptation is two to three minutes, and he states that differences of 0.25 mm. can be detected. A. LEVY.

Harman, N. Bishop.—Aliens, dirt, and disease. *Lancet,* May 14th, 1904.

The pith of this article can scarcely be better given than in **Harman's** own words. " The examination of native and alien patients," he writes, " shows that superficial inflammations of the eye are much more frequent in the alien than in the native ;

also that the alien is deficient in visual acuity to a much greater extent than the natives of London generally or of the very poor natives living under conditions similar to those of the poor alien."

Motais.—On the transmission of sympathetic ophthalmitis by the venous channel. (De la transmission de l'ophtalmie sympathique par la voie veineuse.) *Recueil des travaux Xe Congrès international d'ophtalmologie,* Lucerne, septembre, 1904, and *L'ophtalmologie provinciale,* septembre, 1904.

Assuming that infection is the determining cause of sympathetic ophthalmitis, authorities are by no means agreed as to the channels whereby infection travels from one eye to the other. The general circulation, the ciliary and the optic nerves, and the intervaginal spaces have each and all been suggested in this connection. **Motais**, however, breaks fresh ground. He claims that the infection may pass by means of the veins. The superior ophthalmic vein receives blood from the eye, muscles, and orbital tissues, either directly or by means of its affluent, the inferior ophthalmic vein. Now the superior ophthalmic veins of the two sides, as Motais points out, are in free communication. Behind, the connection is made by means of the cavernous, the circular, and the transverse sinuses, while in front the angular veins form an extensive anastomosis across the bridge of the nose. From this anatomical arrangement it follows that in the circuit made up of the angular veins and their nasal anastomosis, the ophthalmic veins, the cavernous, the circular, and the transverse sinuses, the blood of the two eyes may readily commingle, a process facilitated by the fact that no valve exists throughout the entire length of the circuit. As a practical outcome of his ingenious suggestion, Motais believes that the chances of sympathetic mischief might be diminished by ligating, cutting, or cauterising the venous communication across the root of the nose, the so-called *arcade nasale.* S. S.

REVIEWS.

Notes on the Composition of Scientific Papers. By T. CLIFFORD ALLBUTT, M.A., M.D., LL.D., etc. London: MACMILLAN & CO. Price 3s.

Dr. Clifford Allbutt, setting out to admonish and exhort the novice in a special branch of composition, has written an essay to the profit of every literary student. He says modestly, of what, with equal modesty, he calls his "Notes," that they "have no pretensions to unity or completion, nor even to system"; but unity is here, and system is here, and within its limits the treatise is in no sense incomplete. The survey may not be of the whole field, but it is wide enough for the beginner; and the candidate for M.B. or M.D. who takes to heart (and gets by heart) Dr. Allbutt's counsels on the word, the sentence, and the paragraph ought in time to produce a thesis more apt to flatter than to stagger his examiner. It is not expected of the tyro, with bare leisure for grubbing among the truths of science, that he write very well; it is not needful that he write very elegantly. But the slang of the hospital should find no place in a scientific paper, and worse than slang is the neglect of grammar. The very great majority of the English are born into a language far too good for them; and those who have to use this language in the formal way of writing should be extremely careful that, though they cannot elevate, they at least do nothing to degrade it. Dr. Allbutt's own manner is admirable. Many writers on style betray a not unnatural tendency to strain and overdo their own; Dr. Allbutt, for all his punctilio, is never precious, and never in the least pedantic. Our language is the finest medium of communication in the world, but every language gets threadbare in places, has words and whole phrases which, hale and full of colour in their youth, have lost all quality of life; and whoso at this day would write English even moderately well must bring some thought to his task, for its vast accumulations render more than ever necessary the arts of adaptation and selection. But the exercise of these comes only with the gradual gathering of a vocabulary, and this is among the things the beginner should first attend to. However few the subjects he has to write upon, a lean vocabulary will very soon bring him to his mental end. On this as on other points he will derive much help from Dr. Allbutt, whose advice is almost always sound. We shall, however, venture upon one word of reproach. Dr. Allbutt has a good deal to say about the "slatternly writing" in the Press and the "slipshod journalists who cater for the omnibus." There is in our day probably more of slipshod and slatternly writing in works professing to be scientific than Dr. Allbutt will find in the chief columns of any leading newspaper in London. Dr. Allbutt tells us that he usually makes "four drafts at least before the manuscript is ready for the printer"; an excellent plan—if you have none readier. But some of the happiest and most finished examples in the Rev. Dr. Earle's "English Prose" are culled from leaders in the morning papers, the writers of which have scarce time to finish their first and only draft. The principal pens of the day are at the service of the Press; and we would suggest to Dr. Allbutt that he change his journal. Curiously, the one specimen of contemporary newspaper prose commended by him as a model is the deplorable series of puffs of the *Times* by the *Times* which, in style a very mirror of inflated journalese, amazed the whole community. We will but say in conclusion that Vernon Lee, whom Dr. Allbutt cites approvingly, is not able to criticise De Quincey. Dr. Allbutt has written a charming essay which we doubt not will become a text-book.

Précis de Thérapeutique Oculaire. Par le Docteur SCRINI, chef de clinique ophtalmologique de la Faculté de Paris à l'Hôtel Dieu. Paris: G. STEINHEIL, 2, Rue Casimir-Delavigne. 1904. Price 5 francs.

This volume represents the Lectures upon Ocular Therapeutics given by Dr. Scrini in the Hôtel Dieu, Paris. As Professor De Lapersonne remarks in the preface he has contributed to the volume, the views of the late Professor Panas are reflected upon almost every page of Scrini's compendium. Indeed, the latter may be taken as a more or less authoratitive exposition of the treatment carried out in the Ophthalmological Department of the Hôtel Dieu. The subject is treated in the widest possible way. It is made to include, not only remedies and methods clearly belonging to the domain of ophthalmology, but also numerous general medicaments, and such things as asepsis, antisepsis, anæsthesia, heat, cold, electricity, magnetism, and light. The book ends with a kind of synoptical chapter (19 pages) which gives the leading clinical facts of some common affections (blepharitis, conjunctivitis, iritis, glaucoma, etc.), along with the principles upon which they should be treated, and the remedies that should be applied, and the operations that should be performed. The volume contains upwards of 30 illustrations of sterilisers, drop bottles, and instruments. It further includes a feature somewhat unusual in most French and German scientific publications, namely, a proper index.

The Commoner Diseases of the Eye. By CASEY A. WOOD and THOMAS A. WOODRUFF. Second edition. Chicago: G. P. ENGELHARD & CO. 1904.

This attractive-looking little book is intended for students of medicine, and deals in the simplest way possible with the commoner diseases of the eye. That a second edition has been called for in the course of a few short months proves that the sterling merits of the book have been recognised by the profession. Small wonder! Its statements are couched in clear and concise language; its illustrations (250 in number) are excellent; and special attention has been paid to the all-important question of treatment. The arrangement of its contents calls for no particular comment, unless it be that special chapters are devoted to "Ocular Headaches," to the "Commoner Pathogenic Bacteria that invade the Eye," and to the "Remedies commonly used in Ophthalmic Practice." In short, a careful perusal of the book has led us to form a high opinion of its contents and to enjoy no little satisfaction from the clear way in which the authors' statements are expressed.

The Pathology of the Eye. By J. HERBERT PARSONS, B.S., D.Sc. (Lond.), F.R.C.S. (Eng.), Assistant Ophthalmic Surgeon, University College Hospital; Curator and Pathologist, Royal London (Moorfields) Ophthalmic Hospital; Lecturer on Physiological Optics, University College, London. Vol. I. Histology, Part 1. Hodder & Stoughton, 1904. Price 15s. net.

In this first instalment of his complete textbook on the *Pathology of the Eye* Mr. Parsons is to be congratulated on a workmanlike effort which will add to his reputation; and English-speaking ophthalmic surgeons have reason to be grateful for a much needed work of reference. Judging the whole by the one volume, this excellent treatise is likely long to remain our standard textbook on the subject, necessarily more up-to-date than Greeff's similar unfinished work, until now the best available. The large dimensions to which this field of research has attained is seen from the fact that in the present volume of nearly 400 pages the process of condensation is in places fully evident. Reference to original papers for more detailed information upon particular points is made easy by the very complete bibliography placed at the foot of each sub-division of the text. Full justice has been done to British work, and if names of British investigators are found but seldom this may be taken as a measure of the extraordinary neglect of pathological work among ophthalmologists in this country.

Owing doubtless to the restrictions imposed by the limits of a textbook, a few statements and conclusions appear perhaps more definite than present evidence warrants. For instance, the remark that gonorrhœal conjunctivitis never becomes chronic (p. 41) might be qualified; and the "unitarian" view of the nature of trachoma might well receive more consideration than is given on pp. 74 and 76. The presence of follicles apart from trachoma and from conjunctivitis has no bearing upon the question, which is still quite an open one. But some of the most conspicuous features of the book are the complete digestion of the enormous bulk of literature consulted, thorough insight into the problems discussed, and remarkably sound judgment in sifting and weighing the mass of evidence and in extracting the gist of the material.

A large proportion of the 267 illustrations are new, and being reproductions of photographs, give a truer representation of the actual conditions than is obtainable by drawings. A novel feature is the index of illustrations at the end of the book, designed with the object of fully utilising figures which show two or more distinct facts.

Although nominally dealing only with histology and bacteriology, much other matter is necessarily introduced, including naked-eye anatomy, theoretical considerations, etc. Each of the six chapters begins with a brief description of the normal anatomy of the part. The chapters on the lids and on the sclerotic are short. Nearly half of the 118 pages devoted to the conjunctiva are taken up by the various forms of conjunctivitis. The lists of references are here very copious. As is usual, the causative micro-organisms are first dealt with. In the tissue-changes of general conjunctivitis the chief interest centres in the very complete description of trachoma—a task facilitated by recent German writings. Of special importance in this chapter may also be mentioned the accounts of phlyctenular conjunctivitis (mainly after Leber), of tubercle (mainly after Eyre), of ophthalmia nodosa, spring catarrh, hyalin and allied degenerations, pinguecula, and of the various forms of cysts.

The chapter dealing with the cornea, of equal length and almost equal importance, is also largely occupied with a consideration of inflammation and its results. Following an account of the healing of wounds, a clear and comprehensive rendering is given of the intricate questions concerned in the various forms of keratitis and ulceration. Among degenerations Parsons's exhaustive study of arcus senilis demands notice. The chapters on the iris, anterior chamber, and ciliary body are remarkable for very profuse illustration ; the results of cyclitis after Buchanan are very fully shown.

The publishers have contributed good work in paper, print, etc. There is a marked absence of printers' errors. The appearance of the remaining volumes will be awaited with interest. We are already indebted to Mr. Parsons for the painstaking labour expended on this first part, and wish the book every success.

H. H.

A Handbook of Ophthalmic Science and Practice. By HENRY E. JULER, F.R.C.S. With Illustrations. Third Edition, Revised and enlarged. London : SMITH, ELDER & CO., 15, Waterloo Place. 1904. Price 21/- net.

The latest edition of this well-known work should fully maintain the reputation gained by its predecessors. Although essentially of a clinical type, the book contains sufficient descriptions of the normal and pathological anatomy and physiology of the eyeball and orbit to render it a practically complete handbook of ophthalmic surgery, while the illustrations are numerous and, as a rule, accurate.

The descriptions of diseases are uniformly good, but in places, notably in the articles on conjunctivitis and strabismus, the classification is weak. The directions for treatment are definite and, as a rule, judicious, although it would surely be advisable not to treat both eyes *simultaneously* with jequirity infusion as apparently recommended on page 119, while we should hope that the statement on the same page that inoculation of pus is sometimes performed for the cure of pannus is inaccurate. It is a pity, however, that more care has not been taken to make the accounts of the various methods of treatment exhaustive. To quote a few of the omissions, we find no mention of such old friends as the operations of Hotz and Dianoux for entropion, and the treatment of dendritic ulcer of the cornea by scrubbing with absolute alcohol, while among the comparative novelties there is no reference in the text to Krönlein's operation, dionine, or to any of the organic preparations of silver, although solutions of protargol are mentioned in Appendix I., where they are incorrectly placed under the heading of "Caustics."

Although the author's meaning is always obvious, the wording might, here and there, be more carefully chosen. For instance, if we are to take the directions on page 128 for the treatment of herpes corneæ literally, no one except a nurse or intelligent friend is to be allowed to remove the eye.

The chapter on colour-vision and its defects by Mr. Adams Frost is a particularly good one, and gives a thoroughly practical account of the subject. unburdened by excessive theory.

A novel feature of the book is Appendix IV., which consists of a series of semi-diagrammatic plates, by Mr. George S. Keeling, illustrating the normal and pathological histology of the eye. These depict very clearly the conditions which they are intended to represent.

To sum up, the book, in spite of the faults mentioned, is quite one of the best on its subject, and can be unhesitatingly recommended to anyone who wishes to obtain good, clear descriptions of the diseases of the eye and trustworthy directions for their treatment.

NOTES AND ECHOES.

Nettleship Prize Medal. ON November 3rd, the Nettleship Prize Medal was presented with all due ceremony to Mr. Priestley Smith, of Birmingham. In making the award, the President of the Ophthalmological Society, Mr. John Tweedy, spoke in terms of the highest praise of Mr. Smith's work, particularly instancing his researches into glaucoma. Mr. Priestley Smith expressed his appreciation of the honour paid him in a few characteristically modest sentences. Our cordial congratulations may be here formally added to those rendered by the medical profession, both special and general, upon this bestowal of the blue riband of British Ophthalmology.

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Bowman Lecture. As might have been safely predicted, a crowded audience of physicians and ophthalmic surgeons assembled in the rooms of the Ophthalmological Society, on November 3rd, to listen to the Bowman Lecture on "The Visual Cortex," by Dr. F. W. Mott, F.R.S. The lecturer gave a masterly exposition of the comparative anatomy of the region in question, illustrating his remarks by lantern-slides and numerous diagrams. At the close of the lecture, Mr. Jonathan Hutchinson proposed a hearty vote of thanks to Dr. Mott. This was seconded by Dr. Tempest Anderson, of York, and adopted with acclamation by the Society.

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"Ophthalmology." THE first number of *Ophthalmology*, the new quarterly eye journal, has reached us. We welcome the appearance of this excellently conceived paper, the editor and publisher of which is Dr. H. V. Würdemann, and the assistant editor Dr. N. M. Black, both of Milwaukee. The staff is the same as that formerly attached to the *Annals of Ophthalmology*, now otherwise edited. We notice that England is represented by Mr. Claud Worth. The first number of *Ophthalmology* contains 188 pages of clearly printed matter, comprising seven original articles, many carefully classified abstracts, and seventeen book reviews. It has, besides, a few illustrations. The subscription is £1 per annum. The publishing offices are at 105, Grand Avenue, Milwaukee, Wis., U.S.A. We wish our contemporary every success, which must follow as a matter of course if the promise of the first number be fulfilled.

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Recent Deaths.

News has come to hand of the death of Professor Hygino de Sousa from mesenteric tuberculosis, a disease from which he had for a long time suffered. He was the Secretary of the Section of Ophthalmology of the XVth International Congress of Medicine. Another Continental ophthalmologist has died recently in the person of Dr. Ernst Maier, the founder and director of the Ludwig-Wilhelm-Krankenheims, at Karlsruhe, at the age of 69 years. Count John Magawly, late oculist to the Czar, died from pneumonia on the 29th of August, at Bad Salzungen. He had enjoyed a long and distinguished career. Born in 1831 at Cummingsdorf, near Riga, Magawly studied in Dorpat, Prague, Paris, and Berlin. At the last-named city he was a pupil of Albrecht v. Graefe. Count Magawly was appointed director of the St. Petersburg eye clinique in 1878, in succession to his great friend Robert Blessig. In the year 1874 he became Oculist-in-Ordinary to H.M. the Czar. In 1901 Magawly was compelled to resign his offices on account of ill-health, and he then retired to Leutzsch near Leipzig. Although he enjoyed a large practice, yet he was by no means a voluminous contributor to the literature of his profession. His charming and modest personality will be widely missed in Russia.

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Spectacles superseded.

The extraordinary public vagaries of Mr. Stephen Smith are not likely to enhance the dignity of the medical profession in the eyes of the public. The publication of his so-called "discovery"—which was shown in our last issue to be in reality ancient history—drew forth a challenge from Mr. Aitcheson, the widely-advertised optician, to make some formal trial of the effect of massage upon errors of refraction. The keen-witted optician offered to stake £100 against the method, and in this way he obtained a huge advertisement, as it now appears, without the loss of one penny piece. He appointed Dr. Ettles, of the Minories, as his referee. The persons thus named all share in the publicity, which we are bound to believe has been forced involuntarily upon two out of the three. A contemporary, by the way, seems to have had a curious experience with regard to this matter. The *Medical Press and Circular*, misled by an ambiguous newspaper report, stated that Dr. Ettles had been appointed the referee of Mr. Stephen Smith. This statement was answered by a letter from Dr. Ettles' legal advisor, saying that his client was not in favour of anti-vivisection; that he did not know Mr. Stephen Smith; and had not been appointed that gentleman's referee. It now seems that Dr. Ettles was righteous in his wrath to the extent that instead of having been appointed the referee of a medical man in this unsavoury duello he received that nomination at the hands of a tradesman.

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